Ministry of Tourism and Culture

Culture Programs Unit Programs and Services Branch Culture Division 435 S. James St., Suite 334 Thunder Bay, ON P7E 6S7 Tel.: 807 475-1632 Fax: 807 475-1297

Ministère du Tourisme et de la Culture

Unité des programmes culturels Direction des programmes et des services Division de culture Bureau 334, 435 rue James sud Thunder Bay, ON P7E 6S7 Tél.: 807 475-1632 Téléc.: 807 475-1297



March 15, 2011

Michael Henry Amick Consultants Ltd. 380 Talbot St., PO Box 29 Port McNicoll, ON L0K 1R0

Dear Michael,

Re: Review and acceptance into the provincial register of reports the archaeological assessment report entitled "Stage 1 Background Research of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky and Peever, District of Algoma" written on November 22, 2010, received on January 27, 2011.
 PIF: P058-704-2010

RIMS: HD00579

This office has reviewed the above-mentioned report, which has been submitted to this Ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18. This review is to ensure that the licensed professional consultant archaeologist has met the terms and conditions of their archaeological licence, that archaeological sites have been identified and documented according to the 1993 technical guidelines set by the Ministry and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.

As a result of the Stage 1 archaeological assessment, including a property inspection, a low archaeological potential was evaluated for the subject property. On the basis of this the report recommends that:

• There are no further archaeological concerns for the subject property, as depicted in Figure 4.

The standard advice on compliance with legislation is also provided.

The Ministry of Tourism and Culture concurs with the recommendation and accepts this report into the Ontario Public Register of Archaeological Reports.

Please feel free to contact me with any concerns or questions regarding this letter.

Yours,

Hinshelwood.

Andrew Hinshelwood Archaeology Review Officer



1.0 REPORT COVER PAGE

Licensee Information:

Licensee: Archaeology Licence: Contact Information: Michael B. Henry CD BA CAHP P058 AMICK Consultants Limited Lakelands District Office 380 Talbot Street, P.O. Box 29 Port Mc Nicoll, ON L0K 1R0 Phone: (705) 534-1546 Fax: (705) 534-7855 Email: mhenry@amick.ca www.amick.ca

Project Information:

Corporate Project Number MCL Project Number: Project Description: 10595-P P058-704-2010 Stage 1 Archaeological Assessment of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma

Approval Authority Information:

File Number:

N/A

Reporting Information:

Site Record/Update Forms: Date of Report Filing: N/A November 22, 2010

2.0 EXECUTIVE SUMMARY

This report describes the results of the Stage 1 Archaeological Assessment of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 <u>Archaeological Technical Assessment Guidelines</u> (MCzCR 1993).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The study area was subject to reconnaissance and photographic documentation on October 5 and 6, 2010, and October 14, 2010. In northern Ontario areas of assessable lands within 50m of water are considered high potential and require high intensity survey, areas between 50m and 150m from water are considered as low potential and require low intensity survey. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The study area consists of five (5) road segments to be improved, a bridge to be improved and 25 individual areas along existing roads to be improved. The entirety of the study area is either too far from water, steep slope or disturbed, or some combination of the three; therefore there is no requirement for physical assessment. Consequently, it is recommended that the proposed development be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

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4.0 **PROJECT PERSONNEL**

Consulting Archaeologist Michael Henry (MTC Professional Archaeologist Licence# P058) Field Archaeologist Jason Wootton-Radko (MTC Research Licence #R137) Field Assistant Phil Rice James Bouvier Chris Genier Drew parent Report Preparation Phil Rice (MTC Avocational Licence #A304) Draughting Phil Rice (MTC Avocational Licence #A304) Photography Phil Rice (MTC Avocational Licence #A304)

5.0 PROJECT BACKGROUND

5.1 Development Context

This report describes the results of the Stage 1 Archaeological Assessment of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).



Figure 1 Location of the Study Area

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The

Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 <u>Archaeological Technical Assessment Guidelines</u> (MCzCR 1993). The City of Toronto is enforcing the 2009 <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009)

The 2009 <u>Draft Standards and Guidelines for Consultant Archaeologists</u> summarizes the conduct of Stage 1 Background Studies as follows:

"The consultant archaeologist reviews the geographic, land use, and historical information for the project (all lands that are part of the development proposal) and the relevant surrounding area through a background study. Where necessary, this may be supplemented by a property inspection."

(MCL 2009: iii)

Stage 1 Background Studies are further described in a number of government documents released over a number of years that this stage of archaeological research has been done.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment."

(MCzCR 1993)

The evaluation of potential for heritage resources is further elaborated Section 5.3 of the <u>Guideline for Preparing the Cultural Heritage Resource Component of Environmental</u> <u>Assessments</u> (1992) prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

"Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors which may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.
- Historical context of the region encompassing the affected area.

- Description of previous land uses of the affected area, including nature and extent of previous development disturbances."

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required." (MCC & MOE 1992: 6-7)

"When potential is confirmed for any of the property, the archaeological assessment requirement will apply to the entire parcel of land (excluding any extensively disturbed areas or specific areas determined to be of low potential by the consultant archaeologist)"

(MCL 2005: 15)

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The study area was subject to reconnaissance and photographic documentation on October 5 and 6, 2010, and October 14, 2010. In northern Ontario areas of assessable lands within 50m of water are considered high potential and require high intensity survey, areas between 50m and 150m from water are considered as low potential and require low intensity survey. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The objectives of a Stage 1 Background Study are detailed in the 2009 draft Standards and Guidelines for Consultant Archaeologists:

- 1) "To provide information about the property's geography, history, previous archaeological fieldwork and current land condition;
- 2) To evaluate in detail the property's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property;
- 3) To recommend appropriate strategies for Stage 2 survey."

(MCL 2009: 1)

5.2 Historical Context

5.2.1 Registered Archaeological Sites

As part of the present study, background research was conducted in order to determine if any archaeological resources had been formerly documented within or in close proximity to the subject property and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to assist in the assessment of the archaeological potential of the subject property and in order to establish the significance of any resources which might be encountered during the conduct of the present study. The requisite data was collected from the Programs and Services Branch, Culture Services Unit, MTC and the corporate research library of AMICK Consultants Limited.

The Archaeological Sites Database indicates that there are no previously documented sites within the subject property. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. It must also be noted that the lack of formerly documented sites does not indicate that there are no sites present, as the documentation of any archaeological site is contingent upon prior research having been conducted on the subject property.

First Nations Archaeological Sites

A summary of registered and/or known archaeological sites within a 2-kilometre radius of the subject property was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the subject property.

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Middleport1300-1400 A.D.Huron1400-1650 A.D.WarfareHistoricEarlyOdawa, Ojibwa1700-1875 A.D.Social displacement.LateEuro-Canadian1785 A.D.+European settlement.			Uren	1300-1350 A.D.	Larger villages.
Huron1400-1650 A.D.WarfareHistoricEarlyOdawa, Ojibwa1700-1875 A.D.Social displacement.LateEuro-Canadian1785 A.D.+European settlement.			Middleport	1300-1400 A.D.	
HistoricEarlyOdawa, Ojibwa1700-1875 A.D.Social displacement.LateEuro-Canadian1785 A.D.+European settlement.			Huron	1400-1650 A.D.	Warfare
HistoricEarlyOdawa, Ojibwa1700-1875 A.D.Social displacement.LateEuro-Canadian1785 A.D.+European settlement.					
LateEuro-Canadian1785 A.D.+European settlement.	Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
		Late	Euro-Canadian	1785 A.D.+	European settlement.

Table 1 Cultural Chronology for South-Central Ontario

Euro-Canadian Archaeological Sites

A summary of registered and/or known archaeological sites within a two (2) kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation, the division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca)

5.2.3 Historic Maps



Figure 2 Segment of <u>Map of Part of Northern Ontario Showing the Northern Part</u> of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)

This map illustrates the location of the study area and environs as of 1904 and indicates that no permanent settlement in immediate proximity to the subject property had occurred by that date.

5.2.4 Summary of Historical Context

The data provided from the Ministry of Tourism and Culture indicates no (0) Euro-Canadian archaeological sites are in the vicinity. Due to the lack of a historic transportation system nearby and lack of apparent settlement the study area is considered to have low potential for Euro-Canadian resources.

5.3 Archaeological Context

5.3.1 Location



Figure 3 Location of the Study Area

This report describes the results of the Stage 1 Archaeological Assessment of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards</u> and <u>Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The study area was subject to reconnaissance and photographic documentation on October 5 and 6, 2010, and October 14, 2010. In northern Ontario areas of assessable lands within 50m of water are considered high potential and require high intensity survey, areas between 50m and 150m from water are considered as low potential and require low intensity survey. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The location of the study area is illustrated in Figure 3 above. The study area consists of five (5) road segments to be improved, a bridge to be improved and 25 individual areas along existing roads to be improved. The nearest major intersection is located at the Hwy 17 and Mackay Road, roughly 2908m northwest of the subject property. An aerial photograph of the study area is included within this report as Figure 4 and a contour map of the study area is included within this report as Figure 5.

5.3.2 Physiographic Region

The subject property is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest boarder is significantly north of the subject property (J.V. Wright: 1972:6).

5.3.3 Surface Water

The study area is close to several bodies of water and waterways. All water courses are potable sources of water. The study area ranges from of the Montreal River, both a source of potable water and a navigable waterway. The subject property was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews1970: 10). Therefore there is low potential for archaeological resources related to archaeological resources of the Palaeo-Indian period. However, the area exhibits high potential for archaeological deposits related to all subsequent periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.4 Current Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what manner the physical assessment should be conducted. Conventional assessment methodology includes pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. Where there is reason to believe that deeply buried archaeological deposits may have been capped by subsequent landscape modification activities, alternative assessment strategies may be necessary.

Figure 4 shows the current property conditions and field reconnaissance photograph locations superimposed over an aerial photograph. Field reconnaissance photographs are included at the end of this report.

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma.



Figure 4 Aerial Photo of the Subject Property

For the purpose of determining where physical assessment is necessary and practical, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area does contain an existing structure.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15). Additional built features which fall into this category include driveways, walkways and trails composed of either gravel or asphalt or concrete; in-ground pools; and wells or cisterns. Utility lines are conduits which provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area does contain previous disturbances. All 25 individual areas to be improved are along disturbed existing roadways. A portion of the road segment to be improved in Phase 2a is a disturbed existing roadway. The road segment within Phase 2b is mostly disturbed existing roadway.

5.4.3 Low-Lying and Wet Areas

Landscape features which are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain low lying and wet areas. The bridge to be improved crosses a river. Each side of the bridge is steep slope and exposed bare rock up to the existing disturbed roadway.

5.4.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope. All of the rioad segments are mostly existing steep slope. The two road segments within Phase 1 are both steep slope, as is the the southern proposed roadway within Phase 2a.

5.4.5 Wooded Areas

Areas of the property which cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

The study area does contain wooded areas. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands which have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area does not contain ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be too small to plough, such as yard areas surrounding existing structures, margins of road allowances, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does not contain an area of lawn.

6.0 Study area Inspection

A study area inspection or field reconnaissance is not required as part of a Stage 1 Background Study unless there is reason to believe that portions of the study area may be excluded from physical assessment on the basis of the conditions of the study area or portions thereof.

This report confirms that the entire study area was subject to field reconnaissance. The reconnaissance was completed based on the limits of the study area as indicated on mapping provided by the proponent. This report confirms that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The study area reconnaissance was completed in ideal conditions under sunny skies with a temperature of 15 degrees Celsius. The field reconnaissance was completed on October 5 and 6, 2010, and October 14, 2010 by Mr. Jason Wootton-Radko (MTC Research Licence #R137), assisted by Mr. Phil Rice, (Avocational License # A304). Conditions encountered across the study area were documented photographically and are described above in Section 5.4. The location from which each photograph was taken and the direction toward which the camera was aimed for each photograph are illustrated in Figure 5 (above).

7.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The study area was subject to reconnaissance and photographic documentation on October 5 and 6, 2010, and October 14, 2010. In northern Ontario areas of assessable lands within 50m of water are considered high potential and require high intensity survey, areas between 50m and 150m from water are considered as low potential and require low intensity survey. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario. Section 7.7.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 76) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- 1) *"Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

7.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate archaeological potential (MCL 2009: 5-6). Factors which indicate archaeological potential are features of the local landscape and environment which may have attracted people to either occupy the land or to conduct activities within the subject property. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously documented archaeological sites related to First Nations activity and occupations have not been documented in the vicinity of the study area. Previously documented archaeological sites related to Euro-Canadian activity and occupations have not been documented in the vicinity of the study area.

2) Primary Water Sources

Primary water sources are describes as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portions of the study area are within 300m of water. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential.

3) Secondary Water Sources

Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portion of the study area are within 300m of secondary water sources; however no assessable areas.

4) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

The study area is not located within 300 metres of a past water source.

5) <u>Elevated Topography</u>

Features of elevated topography which indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) Pockets of Well-drained Sandy Soil

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

There were no areas of sandy soil encountered within the study area.

7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated within an area still unsettled.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated in close proximity to the Montreal River which is a historically significant route of communication and trade.

11) Heritage Property

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features or archaeological sites within the study area.

7.1.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MCL 2009: 6). These characteristics are listed below together with considerations derived from the conduct of this study.

The introduction of Section 1.3.2 (MCL 2009: 6) notes that "Archaeological potential has been removed if the entire property or parts of it have been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources, including:"

1) <u>Quarrying</u> There are no quarries within the study area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties which do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations which penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities which do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

It is likely that portions of the existing roadways have been graded.

3) <u>Building Footprints</u>

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars which often obliterate archaeological deposits situated close to the surface.

The study area does not contain any existing structures.

4) <u>Sewage and Infrastructure Development</u>

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

The study area does not contain any underground services.

"Archaeological potential is not removed in urban or brownfield properties that have documented potential for deeply buried intact archaeological resources beneath land alterations."

(MCL 2009: 6)

Table 2 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of the presence of access to water and the location of early historic settlement roads adjacent to the study area.

FEA	TURE OF ARCHAEOLOGICAL POTENTIAL	YES	NO	N/A	COMMENT		
1	1 Known archaeological sites within 300m				If Yes, potential determined		
PH	PHYSICAL FEATURES						
2	Is there water on or near the property?	Y			If Yes, what kind of water?		
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)	Y			If Yes, potential determined		
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)	Y			If Yes, potential determined		
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		N		If Yes, potential determined		
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)	Y			If Yes, and Yes for any of 4-9, potential determined		
4	Pockets of sandy soil in a clay or rocky area		N		If Yes and Yes for any of 3, 5- 9, potential determined		
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		N		If Yes and Yes for any of 3-4, 6-9, potential determined		
HIS	TORIC/PREHISTORIC USE FEATURES						
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		N		If Yes, and Yes for any of 3-5, 7-9, potential determined.		
7	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.)		N		if Yes, and Yes for any of 3-6, 8-9, potential determined		
8	Associated with historic Transportation route (historic road, trail, portage, rail corridors, etc.)		N		If Yes, and Yes for any 3-7 or 9, potential determined		
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined		
APF	APPLICATION-SPECIFIC INFORMATION						
10	Local knowledge (local heritage organizations, First Nations, etc.)		N		If Yes, potential determined		
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)	Y			If Yes, no potential		

Table 2 Evaluation of Archaeological Potential

If YES to any of 1, 2a-c, or 10 Archaeological Potential is confirmed

If YES to 2 or more of 3-9, Archaeological Potential is confirmed

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed**

8.0 **RECOMMENDATIONS**

Under Section 7.7.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:77) the recommendations to be made as a result of a Stage 1 Background Study are described.

1) "Make recommendations regarding the potential for the property, as follows:

a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.

b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.

2) Recommend appropriate Stage 2 assessment strategies."

The study area has been identified as an area of archaeological potential.

Area	Concern	Improvement Boquired	Current	Recommendation
1	Rock Protrusion on N. Side	H&V Realignment to N.	Exposed Rock along Existing Disturbed Road	No Requirement to Assess
2	Sharp Crest	Fill N. Approach	Exposed Rock along Existing Disturbed Road	No Requirement to Assess
3	Tight Radius	H&V Realignment to E.	Exposed Rock and Steep Slope	No Requirement to Assess
4	Sharp Crest & Tight Radius Adjacent to Hydro Anchor	H&V Realignment to W.	Steep Slope	No Requirement to Assess
5	Sharp Crest & Tight Radius at Existing Creek Crossing	H&V Realignment to W.	Steep Slope	No Requirement to Assess
6	Inside of "S" Corner	Deforest & Widen Road to N.	Steep Slope & Greater than 150m to Water	No Requirement to Assess
7	Oversail	Deforest S.E. Quadrant of Intersection	Relatively Flat Woodlot	Deforestation Will Not Impact Ground, No Requirement to Assess
8	Tight Radius	H&V Realignment	Steep Slope and	No Requirement to Assess

Table 3 Proposed Improvements and Recommendations

	Adjacent to Rock Protrusion	to E.	Exposed Rock	
9	Rock Protrusion in N. Ditch (Oversail)	Remove Rock or Vertical Realignment of Road	Steep Slope and Exposed Rock	No Requirement to Assess
10	Oversail	Deforest S.E. Side of Road	Relatively Flat Woodlot	Deforestation Will Not Impact Ground, No Requirement to Assess
10a	Acute Angle Intersection	Realignment of Intersection to the North	Relatively Flat Woodlot Greater than 150m to Water	No Requirement to Assess
11	Oversail	Deforest & Lower Earth Bank N.W. Quadrant of Intersection	Steep Slope & Greater than 150m to Water	No Requirement to Assess
12	Oversail	Deforest S. Side of Road	Steep Slope & Greater than 150m to Water	No Requirement to Assess
13	Oversail	Deforest S. Side of Road	Steep Slope & Greater than 150m to Water	No Requirement to Assess
14	Oversail	Deforest and Lower Earth Bank N.W. Quadrant of Intersection	Relatively Flat Woodlot & Greater than 150m to Water	No Requirement to Assess
15	Tight Radius	H&V Realignment through Existing Earth Bank Borrow Pit	Steep Slope and Exposed Rock	No Requirement to Assess
16	Oversail	Deforest S.E. Side of Road	Relatively Flat Woodlot	Deforestation Will Not Impact Ground, No Requirement to Assess
17	Oversail	Deforest N.W. Side of Road	Steep Slope	No Requirement to Assess
18	Oversail	Deforest & lower Earth Bank E. Side of Road	Steep Slope	No Requirement to Assess
19	Oversail	Deforest N. Side of Road	Steep Slope	No Requirement to Assess
20	Oversail	Deforest S.W. Side of Road	Steep Slope	No Requirement to Assess
21	Oversail	Deforest N.W. Side of Road	Steep Slope	No Requirement to Assess
22	Oversail	Deforest N. Side of Road	Steep Slope	No Requirement to Assess
23	Oversail	Deforest S. Side of Road	Steep Slope	No Requirement to Assess
24	Oversail	Deforest S. Side of Road	Steep Slope	No Requirement to Assess
25	Oversail	Deforest S. Side of Road	Steep Slope	No Requirement to Assess

Dump Road including Turning Lane and taper off Hwy 17 at the Dump Road/Hwy 17 intersection	Road Improvement	N/A	Steep Slope & Greater than 150m to Water	No Requirement to Assess
Phase 1 North	Road Improvement	N/A	Steep Slope	No Requirement to Assess
Phase 1 South	Road Improvement	N/A	Steep Slope	No Requirement to Assess
Phase 2a North	Road Improvement	N/A	Existing Gravel Road & Steep Slope	No Requirement to Assess
Phase 2a South	Road Improvement	N/A	Steep Slope	No Requirement to Assess
Phase 2b	Road Improvement	N/A	Existing Gravel Road, Steep Slope & Exposed Rock	No Requirement to Assess
Bridge	Bridge Improvement	N/A	Low Lying and Wet, Steep Slope & Exposed Rock	No Requirement to Assess

The entirety of the study area is either too far from water, steep slope or disturbed, or some combination of the three; therefore there is no requirement for physical assessment. Consequently, it is recommended that the proposed development be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

9. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

1. This report is filed with the Minister of Culture in compliance with sec. 65 (1) of the Ontario Heritage Act. The ministry reviews reports to ensure that the licensee has met the terms and conditions of the licence and archaeological resources have been identified and documented according to the standards and guidelines set by the ministry, ensuring the conservation, protection and preservation of the heritage of Ontario. It is recommended that development not proceed before receiving confirmation that the Ministry of Culture has entered the report into the provincial register of reports.

2. Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.

3. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services.

10. BIBLIOGRAPHY AND SOURCES

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11.0 STUDY AREA RECONNAISSANCE PHOTOGRAPHS



Plate 5 Proposed Improvement Area 1 Pla facing West

Plate 6 Proposed Improvement Area 2 facing East

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma.



Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma.



Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma.



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Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Road Improvements, Townships of Smilsky & Peever, District of Algoma.


PHASE 1 Stage 1 AMICK Archaeology Report (2008)



Submitted to

The Ontario Ministry of Culture

&

M.K. Ince & Associates Ltd. 35 Main St. North Unit # 32, P.O. Box 650 Waterdown, ON LOR 2H0 Tel: (905) 689-3902 Fax: (905) 689-8195

Prepared by

AMICK Consultants Limited Lakelands District Michael B. Henry CD BA, Managing Partner 380 Talbot Street, P.O. Box 29, Port McNicoll, ON L0K 1R0 Tel: (705) 534-1546 Fax: (705) 534-7855 www.amick.ca

> Archaeological Consulting License # P058 Project # P058-399-2008 Corporate Project # 28267-P

> > December 2008

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Project Personnel

Consulting Archaeologist	Michael Henry
Project Archaeologist	Michael Henry
Report Preparation	Melissa Milne Michael Henry
Draughting	Derek Howard

Executive Summary

This report describes the results of the Stage 1 Background Research Of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Culture for the Province of Ontario. This investigation was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with the guidelines as stipulated within the Archaeological Assessment Technical Guidelines (OMCzCR 1993) and the Ontario Heritage Act (RSO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake this assessment, and was granted permission to carry out archaeological fieldwork on the subject property on Oct. 8, 2008. Due to the size of the subject area a detailed photo reconnaissance was not practical.

It is recommended that where every possible, potential heritage features should be avoided in the design of the proposed undertaking and that any area that may be impacted through the proposed undertaking be subject to Stage 2 Archaeological Assessment in advance of any proposed alteration of the landscape, including working easements where movement of heavy equipment could cause unintended damage to fragile archaeological deposits if present. It is preferable that the Stage 2 Archaeological Assessment be completed before the final design phase of the proposed undertaking in order to maximize opportunities to avoid heritage features identified as a result of the physical assessment of the study area. Areas within the proposed project area that will not require Stage 2 Archaeological Assessment include areas of exposed bare rock, permanently wet areas, steep slopes and areas subject to deep prior impacts.

Areas of exposed rock have no potential to contain archaeological deposits but should be visually inspected during the project area reconnaissance for evidence of petroglyphs or others signs of use, such as for grinding stones. Permanently wet areas cannot be assessed using conventional methodology and would only be subject to detailed archaeological study should adjacent lands yield evidence of potentially

significant archaeological deposits. Areas of steep slope are generally not conducive to human occupation or intensive activity. Accordingly, there is no requirement to assess such areas unless table lands above these slopes yield evidence of potentially significant archaeological deposits that may be indicative of adjacent deposits on areas of steep slope. Areas of deep prior impacts minimize or even obliterate any potential for archaeological deposits. Some such disturbances such as roadways or parking areas may require specialized assessment methodology should evidence come to light to suggests that significant archaeological deposits may be present beneath the layers of disturbance and added aggregate material. Areas within the study area that would be considered exempt from Stage 2 Archaeological Assessment must be verified through field reconnaissance.

<u>As a result of this Stage 1 Archaeological Background Research, it has been</u> determined that the subject property and the area within which it is situated, is an area of high potential to yield evidence of potentially significant archaeological deposits. A <u>Stage 2 Archaeological Assessment of the study area is recommended</u>. This Stage 2 work should be completed in advance of any ground altering activities within the study area in order to ensure that no impacts occur to any archaeological resources which may be present. A field reconnaissance of the study area is necessary to determine areas which may not require field work as part of the Stage 2 Archaeological Assessment and to determine appropriate methodologies to complete archaeological surveys on the balance of the lands subject to the propose undertaking.

1.0 INTRODUCTION

This report describes the results of the Stage 1 Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Culture for the Province of Ontario. This investigation was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with the guidelines as stipulated within the Archaeological Assessment Technical Guidelines (OMCzCR 1993) and the Ontario Heritage Act (RSO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake this assessment, and was granted permission to carry out archaeological fieldwork on the subject property on Oct. 8, 2008. All records, documentation, field notes, photographs and artifacts related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ministry of Culture on behalf of the government and citizens of Ontario.

2.0 LOCATION AND DESCRIPTION

2.1 Location and Current Conditions

This report describes the results of the Stage 1 Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma, as illustrated in Figure 1. Approximately 26 hectares in size, the property is surrounded by woodlot. A limited use road passes through the southwest half of the subject property. The nearest major intersection is located at the Hwy 17 and Mackay Road, roughly 2908m northwest of the subject property.

A plan of the subject property is included within this report as Figure 3. The subject property is irregular in shape and approximately 26 hectares in size. The subject property consists of woodlot covering a series of hillocks and associated slopes. An unnamed tributary stream course of the Montreal River flows through the northeast half of the property from the southeast to northwest.

2.2 <u>Environmental Context</u>

2.2.1 Physiographic Region

The subject property is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high

frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest boarder is significantly north of the subject property (J.V. Wright: 1972:6).

2.2.2 Water Resources

An unnamed creek courses through the northwest to southeast of the subject property. A small lake is at the end the eastern edge of the property. Both water courses are potable sources of water. The subject property is within 2220m of the Montreal River, both a source of potable water and a navigable waterway. The subject property was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews1970: 10). Therefore there is low potential for archaeological resources related to archaeological resources of the Palaeo-Indian period. However, the area exhibits high potential for archaeological deposits related to all subsequent periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

3.0 BACKGROUND RESEARCH

3.1 <u>Native Occupation:</u>

The data gathered from the Archaeological Sites Database administered by the Ontario Ministry of Culture was collected within a 2-kilometre radius about the study area. As a result it was determined that no archaeological sites relating directly to First Nations habitation/activity had been formally documented.

3.2 <u>Euro-Canadian Settlement:</u>

The data gathered from the Archaeological Sites Database administered by the Ontario Ministry of Culture was collected within a 2-kilometre radius about the study area. As a result it was determined that no archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented.

The earliest available historic map of the area The <u>Map of part of Northern</u> <u>Ontario Showing the Northern Part of the District of Nipissing</u>, Algoma and Thunder Bay (1904) indicates that no permanent settlement in immediate proximity to the subject property had occurred by that date (see Figure 2).

Summary:

Background research indicates the property has high potential for significant archaeological resources of Native origins. This determination is based on proximity to water and the understood seasonal resource exploitation and occupation pattern of First Nations cultures in the area. Background research suggests a low potential for archaeological resources of Euro-Canadian origins.

4.0 CONCLUSIONS & RECOMMENDATIONS

AMICK Consultants Limited was engaged by the proponent to undertake this assessment, and was granted permission to carry out archaeological fieldwork on the subject property on Oct. 8, 2008. Due to the size of the subject area a detailed photo reconnaissance was not practical.

It is recommended that where ever possible, potential heritage features should be avoided in the design of the proposed undertaking and that any area that may be impacted through the proposed undertaking be subject to Stage 2 Archaeological Assessment in advance of any proposed alteration of the landscape, including working easements where movement of heavy equipment could cause unintended damage to fragile archaeological deposits if present. Landscape alterations would include the removal of trees, any grading activities, or any structural demolition. It is preferable that the Stage 2 Archaeological Assessment be completed before the final design phase of the proposed undertaking in order to maximize opportunities to avoid heritage features identified as a result of the physical assessment of the study area.

<u>As a result of this Stage 1 Archaeological Background Research, it has been</u> determined that the subject property and the area within which it is situated, is an area of high potential to yield evidence of potentially significant archaeological deposits. A Stage 2 Archaeological Assessment of the study area is recommended. This Stage 2 work should be completed in advance of any ground altering activities within the study area in order to ensure that no impacts occur to any archaeological resources which may be present. A field reconnaissance of the study area is necessary to determine areas which may not require field work as part of the Stage 2 Archaeological Assessment and to determine appropriate methodologies to complete archaeological surveys on the balance of the lands subject to the propose undertaking.

It must be noted at this time that no archaeological survey, regardless of its intensity, can entirely negate the possibility of deeply buried cultural material, notably human interments. In consequence, it is further recommended that should any such remains be encountered during construction activities, the Regulatory Operations Group, Ontario Ministry of Culture and/or the Cemeteries Regulation Group of the Ontario Ministry of Consumer and Commercial Relations and AMICK Consultants Limited be contacted immediately.

5.0 **REFERENCES CITED**

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TABLE 1	Cultural Chronology for	South-Central Ontario
---------	--------------------------------	-----------------------

Period		Group	Date Range	Traits
Palaeo- Indian		Fluted Point	9500-8500 B.C.	Big game hunters.
		Hi-Lo	8500-7500 B.C.	Small nomadic groups.
	E a d			
Archaic	Early		8000-6000 B.C	Hunter-gatherers.
	Middle	Laurentian	6000-200 B.C.	Territorial divisions arise.
	Late	Lamoka	2500-1700 B.C.	Ground stone tools appear.
		Broadpoint	1800-1400 B.C.	
		Crawford Knoll	1500-500 B.C.	
		Glacial Kame	c.a. 1000 B.C.	Elaborate burial practices.
Woodland	Early	Meadowood	1000-400 B.C.	Introduction of pottery.
		Red Ochre	1000-500 B.C.	
	Middle	Point Peninsula	400 B.C500 A.D.	Long distance trade.
		Princess Point	500-800 A.D.	Horticulture.
	Late	Pickering	800-1300 A.D.	Villages and agriculture.
		Uren	1300-1350 A.D.	Larger villages.
		Middleport	1300-1400 A.D.	
		Huron	1400-1650 A.D.	Warfare
Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
	Late	Euro-Canadian	1785 A.D.+	European settlement.



Figure 1 Location of the Subject Property



Figure 2 Segment of Historic Map

Stage 1 MoC Response Letter (2009)

Ministry of Culture

Culture Programs Unit Programs and Services Branch 435 S. James St., Sulte 334 Thunder Bay, ON P7E 6S7 Tel: (807) 475-1632 Fax: (807) 475-1297 Email: palge.campbell@ontario.ca

August 7, 2009

Mike Henry AMICK Consultants Limited Lakelands District 380 Talbot Street, PO Box 29 Port McNicoll, ON LOK 1R0

Dear Mike,

Review and acceptance into the provincial register of reports the archaeological assessment report entitled "Report on the 2008 Stage 1 Background Research of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma" written December 2008, received on July 24, 2009
 PIF: P058-399-2008

RIMS: HD00126 AMICK: 28267-P

This office has reviewed the above-mentioned report, which has been submitted to this Ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18. This review is to ensure that the licensed professional consultant archaeologist has met the terms and conditions of their archaeological licence, that archaeological sites have been identified and documented according to the 1993 technical guidelines set by the Ministry and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.

This Stage 1 background study reveals that the subject property shows archaeological potential. The report recommends that a Stage 2 archaeological field assessment is necessary. The Ministry of Culture concurs with these recommendations and accepts this report into the provincial register of archaeological reports.

Please contact me with any concerns regarding this matter.

Yours,

Paige Gampbell Acting Archaeology Review Officer cc M.K. Ince & Associates Ltd.

Ontario

Ministère de la Culture

Unité des programmes culturels Direction des programmes et des services Bureau 334, 435 rue James sud Thunder Bay, ON P7E 6S7 Tél: (807) 475-1632 Téléo: (807) 475-1297 Email: paige.campbell@ontario.ca

Stage 2 AMICK Archaeology Report (2010)



1.0 REPORT COVER PAGE

Licensee Information:

Licensee: Archaeology Licence: Contact Information: Michael B. Henry CD BA CAHP P058 AMICK Consultants Limited Lakelands District Office 380 Talbot Street, P.O. Box 29 Port Mc Nicoll, ON L0K 1R0 Phone: (705) 534-1546 Fax: (705) 534-7855 Email: mhenry@amick.ca www.amick.ca

Project Information:

Corporate Project Number MCL Project Number: Project Description: 10595-P P058-645-2010 Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma

Approval Authority Information:

File Number:

Reporting Information:

Site Record/Update Forms:	N/A
Date of Report Filing:	July 19, 2010

N/A

2.0 EXECUTIVE SUMMARY

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a component study of the Environmental Assessment process for projects subject to the Renewable Energy Act (REA). All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 <u>Archaeological Technical Assessment Guidelines</u> (MCzCR 1993).

A Stage 1 Archaeological Background Research study was completed by AMICK Consultants Limited for the study area under the title 'Report on the 2008 Stage 1 Background Research of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma' (AMICK 2008). A Stage 2 Archaeological Assessment of the proposed undertaking was recommended.

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The proposed undertaking was subject to reconnaissance and photographic documentation concurrently with the conduct of the Stage 2 Archaeological Assessment. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject physical assessment on July 14 & 15, 2010. Areas of assessable lands within 50m of water were subject to high intensity test pit survey at an interval of five metres between individual test pits, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual test pits. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

As a result of the physical assessment of the proposed undertaking, no archaeological resources were encountered. It is recommended that any current or future condition of development for the proposed undertaking respecting archaeological resources should be considered as addressed.

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4.0 **PROJECT PERSONNEL**

Consulting Archaeologist

Michael Henry (MTC Professional Archaeologist Licence# P058) **Field Archaeologist** Jason Wootton-Radko (MTC Research Licence #R137) **Field Assistants** Niki Yanuziello **Bill Carruthers** Ed Strohm James Bouvier **Drew Parent** Morgan MacMillan **Report Preparation** Phil Rice (MTC Avocational Licence #A304) Draughting Phil Rice (MTC Avocational Licence #A304) **Photography** Jason Wootton-Radko (MTC Research Licence #R137)

5. **PROJECT BACKGROUND**

5.1 Development Context

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a component study of the Environmental Assessment process for projects subject to the Renewable Energy Act (REA). All work was conducted in conformity with the Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).



Figure 1 Location of the Study Area

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The

Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 Archaeological Technical Assessment Guidelines (MCzCR 1993).

The 2009 <u>Draft Standards and Guidelines for Consultant Archaeologists</u> summarizes the conduct of Stage 1 Background Studies as follows:

"The consultant archaeologist reviews the geographic, land use, and historical information for the project (all lands that are part of the development proposal) and the relevant surrounding area through a background study. Where necessary, this may be supplemented by a property inspection."

(MCL 2009: iii)

Stage 1 Background Studies are further described in a number of government documents released over a number of years that this stage of archaeological research has been done.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment."

(MCzCR 1993)

The evaluation of potential for heritage resources is further elaborated Section 5.3 of the <u>Guideline for Preparing the Cultural Heritage Resource Component of Environmental</u> <u>Assessments</u> (1992) prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

"Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors which may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.
- Historical context of the region encompassing the affected area.
- Description of previous land uses of the affected area, including nature and extent of previous development disturbances."

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required." (MCC & MOE 1992: 6-7)

"When potential is confirmed for any of the property, the archaeological assessment requirement will apply to the entire parcel of land (excluding any extensively disturbed areas or specific areas determined to be of low potential by the consultant archaeologist)"

(MCL 2005: 15)

The objectives of a Stage 1 Background Study are detailed in the 2009 draft Standards and Guidelines for Consultant Archaeologists:

- 1) "To provide information about the property's geography, history, previous archaeological fieldwork and current land condition;
- 2) To evaluate in detail the property's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property;
- 3) To recommend appropriate strategies for Stage 2 survey."

(MCL 2009: 1)

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the proposed undertaking and was granted permission to carry out archaeological fieldwork on July 12, 2010. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

5.2 Historical Context

5.2.1 Registered Archaeological Sites

As part of the present study, background research was conducted in order to determine if any archaeological resources had been formerly documented within or in close proximity to the proposed undertaking and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to assist in the assessment of the archaeological potential of the proposed undertaking and in order to establish the significance of any resources which might be encountered during the conduct of the present study. The requisite data was collected from the Programs and Services Branch, Culture Services Unit, MTC and the corporate research library of AMICK Consultants Limited.

The Archaeological Sites Database indicates that there are no previously documented sites within the proposed undertaking. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. It must also be noted that the lack of formerly documented sites does not indicate that there are no sites present, as the documentation of any archaeological site is contingent upon prior research having been conducted on the proposed undertaking.

First Nations Archaeological Sites

A summary of registered and/or known archaeological sites within a 2-kilometre radius of the proposed undertaking was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the proposed undertaking.

Period		Group	Date Range	Traits
		[
Palaeo-Indian		Fluted Point	9500-8500 B.C.	Big game hunters.
		Hi-Lo	8500-7500 B.C.	Small nomadic groups.
		_		
Archaic	Early		8000-6000 B.C	Hunter-gatherers.
	Middle	Laurentian	6000-200 B.C.	Territorial divisions arise.
	Late	Lamoka	2500-1700 B.C.	Ground stone tools appear.
		Broadpoint	1800-1400 B.C.	
		Crawford Knoll	1500-500 B.C.	
		Glacial Kame	c.a. 1000 B.C.	Elaborate burial practices.
		_		
Woodland	Early	Meadowood	1000-400 B.C.	Introduction of pottery.
		Red Ochre	1000-500 B.C.	
	Middle	Point Peninsula	400 B.C500 A.D.	Long distance trade.
		Princess Point	500-800 A.D.	Horticulture.
	Late	Pickering	800-1300 A.D.	Villages and agriculture.
		Uren	1300-1350 A.D.	Larger villages.
		Middleport	1300-1400 A.D.	
		Huron	1400-1650 A.D.	Warfare
Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
	Late	Euro-Canadian	1785 A.D.+	European settlement.

Table 1 Cultural Chronology for South-Central Ontario

Euro-Canadian Archaeological Sites

A summary of registered and/or known archaeological sites within a two (2) kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation, the division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is as a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca)

5.2.3 Historic Maps



Figure 2 Segment of <u>Map of Part of Northern Ontario Showing the Northern Part</u> of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)

This map illustrates the location of the study area and environs as of 1904 and indicates that no permanent settlement in immediate proximity to the proposed undertaking had occurred by that date.

5.2.4 Summary

The Montreal River was a major source of communication and trade extending back into the pre-contact period of human occupation in Ontario. European explorers and fur traders employed this already developed system of communication and trade well into the 19th century until waterborne transportation was finally supplanted by the development of shipping canals, road networks and railway systems. Given the close proximity of the study area to the Montreal River, the area in general is considered to have high potential for sites related to First Nations activity and the fur trade era.

5.3 Archaeological Context

5.3.1 Location



Figure 3 Location of the Study Area

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a component study of the Environmental Assessment process for projects subject to the Renewable Energy Act (REA). All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards</u>

and Guidelines for Consultant Archaeologists (MCL 2009), the Ontario Heritage Act (RSO 1990), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The proposed undertaking was subject to reconnaissance and photographic documentation concurrently with the conduct of the Stage 2 Archaeological Assessment. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject physical assessment on July 14 & 15, 2010. Areas of assessable lands within 50m of water were subject to high intensity test pit survey at an interval of five metres between individual test pits, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual test pits. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The location of the study area is illustrated in Figure 3 above. Approximately 49.72 hectares in size, the study area is comprised of a series of twelve (12) proposed turbine locations, two (2) substations, and access roads and internal electrical lines connecting the above installations. The proposed undertaking is entirely contained within a forest environment. The nearest major intersection is located at the Hwy 17 and Mackay Road, roughly 2908m northwest of the proposed undertaking. An aerial photograph of the study area is included within this report as Figure 4 and a contour map of the study area is included within this report as Figure 5.

5.3.2 Physiographic Region

The proposed undertaking is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest border is significantly north of the proposed undertaking (J.V. Wright: 1972:6).

5.3.3 Surface Water

An unnamed tributary stream of the Montreal River courses through the area of the proposed undertaking from the southeast to the northwest. A small lake is situated at the eastern edge of the study area. Each would have served as a source of potable water and associated resources for human occupants of the area in the past. The proposed undertaking is within 2.2 kilometres of the Montreal River, both a source of potable water and a historically significant navigable waterway. The proposed undertaking was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews 1970: 10). Therefore there is low potential for archaeological resources related to archaeological resources of the Palaeo-Indian period. However, the area exhibits high potential for archaeological deposits related to all subsequent periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.4 Current Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what manner the physical assessment should be conducted. Conventional assessment methodology includes pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. Where there is reason to believe that deeply buried archaeological deposits may have been capped by subsequent landscape modification activities, alternative assessment strategies may be necessary.

Figure 4 shows the current property conditions and assessment methodologies together with field reconnaissance photograph locations superimposed over an aerial photograph. Field reconnaissance photographs are included at the end of this report.





For the purpose of determining where physical assessment is necessary and practical, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area does not contain any existing structures.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15). Additional built features which fall into this category include driveways, walkways and trails composed of either gravel or asphalt or concrete; in-ground pools; and wells or cisterns. Utility lines are conduits which provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area does contain previous disturbances. The most southerly of the proposed roadways is an existing gravel road. This disturbance encompasses the whole of the assessed corridor as gravel has been spread out past the 20m corridor in order to establish a flat grade. At the southern end of the study area is the location of a proposed substation; this area consisted of gravel fill and mounded back dirt presumably from the road construction. There is a similar area of gravel road construction along the road from the proposed location of Turbine 5 to the proposed location of turbine 6; this disturbance encompasses the whole of the assessed corridor. A portion of the roadway between the proposed location of Turbine 6 and the proposed location of Turbine 9 is also an area of gravel road construction; this disturbance encompasses the whole of the assessed corridor. The final area of previous

disturbance is located in the north western area of the study area at the location of a proposed substation. This area is a former quarry.

5.4.3 Low-Lying and Wet Areas

Landscape features which are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain low lying and wet areas. The proposed road network is crossed by two unnamed creeks. In both cases the lands adjacent to the channel are boggy and not testable for a distance of roughly 10 metres to either side of the stream. The area of proposed turbine 6 was also a low lying and wet area. Finally the proposed electrical line corridor is crossed in two places by a creek and is wet on both sides of the stream for a distance of ten metres from both banks.

5.4.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope. Those portions of the proposed roadways that were not previously disturbed and more than 150 metres from water were all steep slopes consisting of broken rocky terrain and very steep hillsides and cliffs.

5.4.5 Wooded Areas

Areas of the property which cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

The study area is entirely contained within a forest environment. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential. Two areas requiring assessment by the above criteria were located at proposed turbine location number 4 and at proposed turbine location number 10. Both of these proposed turbine locations were within 150m of water but beyond 50m. These proposed turbine sites were accordingly assessed at an interval of ten metres between individual test pits. For the purposes of the assessment, turbine sites were assumed to measure 100 metres in diameter to allow for component lay down area, crane location and the construction sites. A portion of the proposed electrical line corridor is within 50m of water, and a longer portion is within 150m of water.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands which have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area does not contain ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be too small to plough, such as yard areas surrounding existing structures, margins of road allowances, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does not contain an area of lawn.

6.0 FIELD METHODS

This report confirms that the entirety of the proposed undertaking was subject to visual inspection, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The property reconnaissance and assessment were completed under sunny skies on July 14 & 15, 2010. The temperature at the time of the reconnaissance and assessment was 26°C. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report. Upon completion of the field reconnaissance of the proposed undertaking, it was determined that select areas would require Stage 2 archaeological assessment consisting of test pit survey methodology.

6.1 Photo Reconnaissance

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the proposed undertaking to facilitate Stage 2 assessment. All areas of the proposed undertaking were visually inspected and photographed. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report.

6.2 Test Pit Survey

In accordance with the draft <u>Standards and Guidelines for Consultant Archaeologists</u>, test pit survey is required to be undertaken for those portions of the proposed undertaking where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Areas of steep slope and areas that are low-lying and wet were not subject to Stage 2 survey.

"1. Test pit survey only on terrain where ploughing is not possible or viable, such as:

- a. wooded areas
- b. pasture with high rock content
- c. abandoned farmland with heavy brush and weed growth

d. orchards and vineyards that cannot be strip-ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey

e. very small properties (one hectare or less)

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out.

2. Do not use test pit survey on actively or recently cultivated agricultural land." (MCL 2009: 12)

The requirements to be followed in the conduct of test pit survey area specified below:

- 1. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.
- 2. Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential.
- 3. Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.
- 4. Ensure that test pits are at least 30 cm in diameter.
- 5. Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.
- 6. Screen soil through mesh no greater than 6 mm
- 7. Backfill all test pits unless instructed not to by the landowner.

(MCL 2009: 12)

The requirements for test pitting in northern and eastern Ontario are specified below:

1. As an alternative to general test pit survey standards 1 and 2, a modified test pit survey interval may be used for northern and Canadian Shield terrain:

- a. At 0-50m from any feature of archaeological potential, space test pits at maximum intervals of 5m.
- b. At 50-150m from any feature of archaeological potential, space test pits at maximum intervals of 10m. Survey is not required beyond 150m.
- c. Clustered test pits may be used to survey small areas of archaeological potential located in areas otherwise determined to be of low archaeological potential.
- d. While maintaining standard survey grids as closely as possible, the consultant archaeologist may vary from standard survey grids as necessary, based on professional judgement. Document and explain the rationale for all variations in the stage 2 report.

(MCL 2009: 15)

Test pits are measured roughly 30 centimeters in diameter and were dug at least 5 centimeters into the subsoil beneath the topsoil layer where not refused by shallow depths to bedrock. All excavated earth was screened through 6 mm wire mesh to ensure that any artifacts contained within the soil matrix are recovered.

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Figure 5 Plan of the Proposed undertaking

7. ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The proposed undertaking was subject to reconnaissance and photographic documentation concurrently with the conduct of the Stage 2 Archaeological Assessment. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject physical assessment on July 14 & 15, 2010. Areas of assessable lands within 50m of water were subject to high intensity test pit survey at an interval of five metres between individual test pits, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual test pits. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

7.1 Stage 1 Analysis and Conclusions

Section 7.7.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 76) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- 1) *"Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

7.1.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate archaeological potential (MCL 2009: 5-6). Factors which indicate archaeological potential are features of the local landscape and environment which may have attracted people to either occupy the land or to conduct activities within the proposed undertaking. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously documented archaeological sites related to First Nations activity and occupations have not been documented in the vicinity of the study area. Previously documented archaeological sites related to Euro-Canadian activity and occupations have not been documented in the vicinity of the study area.

2) Primary Water Sources

Primary water sources are describes as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portions of the study area are within 300m of water.

3) Secondary Water Sources

Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

Much of the property consists of low lying and wet areas that would be considered secondary water sources.

4) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

The study area is not located within 300 metres of a past water source.

5) <u>Elevated Topography</u>

Features of elevated topography which indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) <u>Pockets of Well-drained Sandy Soil</u>

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

There were no areas of sandy soil encountered within the study area.
7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is not situated within an area of early settlement.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated in close proximity to the Montreal River which is a historically significant route of communication and trade.

11) <u>Heritage Property</u>

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features or archaeological sites within the study area.

7.1.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MCL 2009: 6). These characteristics are listed below together with considerations derived from the conduct of this study.

The introduction of Section 1.3.2 (MCL 2009: 6) notes that "Archaeological potential has been removed if the entire property or parts of it have been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources, including:"

1) Quarrying

A portion of the study area in the northwest is a former quarry area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties which do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations which penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities which do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

The area in the south of the study area has been deeply disturbed by grading.

3) Building Footprints

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars which often obliterate archaeological deposits situated close to the surface.

The study area does not contain any structures.

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4) <u>Sewage and Infrastructure Development</u>

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

The study area does not contain any underground services.

"Archaeological potential is not removed in urban or brownfield properties that have documented potential for deeply buried intact archaeological resources beneath land alterations."

(MCL 2009: 6)

Table 2 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of the presence of access to water and the location of early historic settlement roads adjacent to the study area.

FEA	TURE OF ARCHAEOLOGICAL POTENTIAL	YES	NO	N/A	COMMENT
1	Known archaeological sites within 300m		Ν		If Yes, potential determined
PH	/SICAL FEATURES				
2	Is there water on or near the property?	Υ			If Yes, what kind of water?
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)	Y			If Yes, potential determined
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)	Y			If Yes, potential determined
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		N		If Yes, potential determined
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)	Y			If Yes, and Yes for any of 4-9, potential determined
4	Pockets of sandy soil in a clay or rocky area		N		If Yes and Yes for any of 3, 5- 9, potential determined
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		N		If Yes and Yes for any of 3-4, 6-9, potential determined
HIS	TORIC/PREHISTORIC USE FEATURES				
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		N		If Yes, and Yes for any of 3-5, 7-9, potential determined.
7	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.)		N		if Yes, and Yes for any of 3-6, 8-9, potential determined
8	Associated with historic Transportation route (historic road, trail, portage, rail corridors, etc.)	Y			If Yes, and Yes for any 3-7 or 9, potential determined
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined
AP					
10	Local knowledge (local neritage organizations, First Nations, etc.)		N		If Yes, potential determined
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)	Y			If Yes, no potential

Table 4 Evaluation of Archaeological Potential

If YES to any of 1, 2a-c, or 10 Archaeological Potential is confirmed

If YES to 2 or more of 3-9, Archaeological Potential is confirmed

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed**

7.2 Stage 2 Analysis and Recommendations

Section 7.8.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 80) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Physical Assessment.

- 1. Summarize all findings from the Stage 2 survey, or state that no archaeological sites were identified.
- 2. For each archaeological site, provide the following analysis and conclusions:
 - a. A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.
 - b. A comparison against the criteria in Section2: Stage 2: Property Assessment to determine whether further assessment is required
 - c. A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.

No archaeological sites or resources were found during the Stage 2 survey of the study area.

8.0 **RECOMMENDATIONS**

8.1 Stage 1 Recommendations

Under Section 7.7.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:77) the recommendations to be made as a result of a Stage 1 Background Study are described.

1) "Make recommendations regarding the potential for the property, as follows:

a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.

b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.

2) Recommend appropriate Stage 2 assessment strategies."

The study area has been identified as an area of archaeological potential.

The areas not consisting of previous disturbances, low-lying and wet or steep slope that were within 150m of water were determined to have archaeological potential and Stage 2 assessment was therefore conducted using test pit survey methodology.

8.2 Stage 2 Recommendations

Under Section 7.8.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:80) the recommendations to be made as a result of a Stage 2 Physical Assessment are described.

- 1. For each archaeological site, provide the following:
 - a. Borden number or other identifying number
 - b. Whether or not it recommended for Stage 3 assessment
 - c. Where relevant, appropriate Stage 3 assessment strategies (see Section 3: Stage 3 Site-Specific Assessment).
- 2. If deeply buried archaeological sites with a sufficient levl of cultural heritage value or interest are identified, recommend Stage 4 mitigation of impacts and appropriate Stage 4 strategies (see Section 4: Stage 4: Overview of Options for Mitigation of Development Impacts). (Stage 3 is not required.)
- 3. If the survey did not identify an archaeological sites requiring further assessment or mitigation of impacts, recommend no further archaeological assessment of the property be required.

As a result of the physical assessment of the proposed undertaking, no archaeological resources were encountered. Consequently, it is recommended that the proposed undertaking be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

9. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

1. This report is filed with the Minister of Culture in compliance with sec. 65 (1) of the Ontario Heritage Act. The ministry reviews reports to ensure that the licensee has met the terms and conditions of the licence and archaeological resources have been identified and documented according to the standards and guidelines set by the ministry, ensuring the conservation, protection and preservation of the heritage of Ontario. It is recommended that development not proceed before receiving confirmation that the Ministry of Culture has entered the report into the provincial register of reports.

2. Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.

3. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services.

10. BIBLIOGRAPHY AND SOURCES

AMICK Consultants Limited

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11.0 Study Area Reconnaissance Photographs







Stage 2 MoC Response Letter (2010)

Ministry of Tourism and Culture

Culture Programs Unit Programs and Services Branch Culture Division 435 S. James St., Suite 334 Thunder Bay, ON P7E 6S7 Tel.: 807 475-1638 Fax: 807 475-1297

Ministère du Tourisme et de la Culture

Unité des programmes culturels Direction des programmes et des services Division de culture Bureau 334, 435 rue James sud Thunder Bay, ON P7E 6S7 Tél.: 807 475-1638 Téléc.: 807 475-1297



October 6, 2010

M.K. Ince and Associates Ltd. Attn: Mr Thomas Bernacki 11 Cross Street Dundas, ON L9H 2R3 thomas.bernacki@mkince.ca

RE: Bow Lake Wind Farm, Phase 1

Location: Townships of Smilsky & Peever, District of Algoma

FIT #: FVXCPUV

MTC File #: HD00126

Dear Mr Bernacki,

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act*'s licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the report.*

The report recommends the following:

• "...it is recommended that the proposed undertaking be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed."

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the *Ontario Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Paige Campbell Archaeology Review Officer paige.campbell@ontario.ca

cc. AMICK Consultants Ltd.

^{*}In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the report or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Stage 2 AMICK Amendment Report (January 2012)



1.0 REPORT COVER PAGE

Licensee Information:

Licensee:	Michael B. Henry CD BA CAHP
Archaeology Licence:	P058
Contact Information:	AMICK Consultants Limited
	Lakelands District Office
	380 Talbot Street, P.O. Box 29
	Port Mc Nicoll, ON L0K 1R0
	Phone: (705) 534-1546 Fax: (705) 534-7855
	Email: mhenry@amick.ca
	www.amick.ca

N/A

Project Information:

Corporate Project Number MCL Project Number: Project Description:

10595-P P058-645-2010 Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma

Approval Authority Information:

File Number:

Reporting Information:

Site Record/Update Forms:	N/A
Date of Report Filing:	January 3, 2012

2.0 EXECUTIVE SUMMARY

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a component study of the Environmental Assessment process for projects subject to the Renewable Energy Act (REA). All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 <u>Archaeological Technical Assessment Guidelines (MCzCR 1993)</u>.

A Stage 1 Archaeological Background Research study was completed by AMICK Consultants Limited for the study area under the title 'Report on the 2008 Stage 1 Background Research of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma' (AMICK 2008). A Stage 2 Archaeological Assessment of the proposed undertaking was recommended.

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The proposed undertaking was subject to reconnaissance and photographic documentation concurrently with the conduct of the Stage 2 Archaeological Assessment. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject physical assessment on July 14 & 15, 2010. Areas of assessable lands within 50m of water were subject to high intensity test pit survey at an interval of five metres between individual test pits, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual test pits. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

As a result of the physical assessment of the proposed undertaking, no archaeological resources were encountered. It is recommended that any current or future condition of development for the proposed undertaking respecting archaeological resources should be considered as addressed.

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4.0 **PROJECT PERSONNEL**

Consulting Archaeologist

Michael Henry (MTC Professional Archaeologist Licence# P058) Field Archaeologist Jason Wootton-Radko (MTC Research Licence #R137) **Field Assistants** Niki Yanuziello Bill Carruthers Ed Strohm James Bouvier Drew Parent Morgan MacMillan **Report Preparation** Phil Rice (MTC Avocational Licence #A304) Draughting Sarah MacKinnon (Research Archaeologist Licence #389) **Photography** Jason Wootton-Radko (MTC Research Licence #R137)

5. **PROJECT BACKGROUND**

5.1 Development Context

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a component study of the Environmental Assessment process for projects subject to the Renewable Energy Act (REA). All work was conducted in conformity with the Ontario Ministry of Culture (MCL) draft Standards and Guidelines for Consultant Archaeologists (MCL 2009), the Ontario Heritage Act (RSO 1990), and the Ontario Heritage Amendment Act (SO 2005).



Figure 1 Location of the Study Area

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The

Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 Archaeological Technical Assessment Guidelines (MCzCR 1993).

The 2009 <u>Draft Standards and Guidelines for Consultant Archaeologists</u> summarizes the conduct of Stage 1 Background Studies as follows:

"The consultant archaeologist reviews the geographic, land use, and historical information for the project (all lands that are part of the development proposal) and the relevant surrounding area through a background study. Where necessary, this may be supplemented by a property inspection."

(MCL 2009: iii)

Stage 1 Background Studies are further described in a number of government documents released over a number of years that this stage of archaeological research has been done.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment."

(MCzCR 1993)

The evaluation of potential for heritage resources is further elaborated Section 5.3 of the <u>Guideline for Preparing the Cultural Heritage Resource Component of Environmental</u> <u>Assessments</u> (1992) prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

"Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors which may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.
- Historical context of the region encompassing the affected area.
- Description of previous land uses of the affected area, including nature and extent of previous development disturbances."

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required." (MCC & MOE 1992: 6-7)

"When potential is confirmed for any of the property, the archaeological assessment requirement will apply to the entire parcel of land (excluding any extensively disturbed areas or specific areas determined to be of low potential by the consultant archaeologist)"

(MCL 2005: 15)

The objectives of a Stage 1 Background Study are detailed in the 2009 draft Standards and Guidelines for Consultant Archaeologists:

- 1) "To provide information about the property's geography, history, previous archaeological fieldwork and current land condition;
- 2) To evaluate in detail the property's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property;
- *3)* To recommend appropriate strategies for Stage 2 survey. "

(MCL 2009: 1)

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the proposed undertaking and was granted permission to carry out archaeological fieldwork on July 12, 2010. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

5.2 Historical Context

5.2.1 Registered Archaeological Sites

As part of the present study, background research was conducted in order to determine if any archaeological resources had been formerly documented within or in close proximity to the proposed undertaking and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to assist in the assessment of the archaeological potential of the proposed undertaking and in order to establish the significance of any resources which might be encountered during the conduct of the present study. The requisite data was collected from the Programs and Services Branch, Culture Services Unit, MTC and the corporate research library of AMICK Consultants Limited.

The Archaeological Sites Database indicates that there are no previously documented sites within the proposed undertaking. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. It must also be noted that the lack of formerly documented sites does not indicate that there are no sites present, as the documentation of any archaeological site is contingent upon prior research having been conducted on the proposed undertaking.

First Nations Archaeological Sites

A summary of registered and/or known archaeological sites within a 2-kilometre radius of the proposed undertaking was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the proposed undertaking.

		~	D . D	
Period		Group	Date Range	Traits
D 1 1 1				
Palaeo-Indian		Fluted Point	9500-8500 B.C.	Big game hunters.
		Hi-Lo	8500-7500 B.C.	Small nomadic groups.
Archaic	Early		8000-6000 B.C	Hunter-gatherers.
	Middle	Laurentian	6000-200 B.C.	Territorial divisions arise.
	Late	Lamoka	2500-1700 B.C.	Ground stone tools appear.
		Broadpoint	1800-1400 B.C.	
		Crawford Knoll	1500-500 B.C.	
		Glacial Kame	c.a. 1000 B.C.	Elaborate burial practices.
Woodland	Early	Meadowood	1000-400 B.C.	Introduction of pottery.
		Red Ochre	1000-500 B.C.	
	Middle	Point Peninsula	400 B.C500 A.D.	Long distance trade.
		Princess Point	500-800 A.D.	Horticulture.
	Late	Pickering	800-1300 A.D.	Villages and agriculture.
		Uren	1300-1350 A.D.	Larger villages.
		Middleport	1300-1400 A.D.	
		Huron	1400-1650 A.D.	Warfare
Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
	Late	Euro-Canadian	1785 A.D.+	European settlement.

Table 1 Cultural Chronology for South-Central Ontario

Euro-Canadian Archaeological Sites

A summary of registered and/or known archaeological sites within a two (2) kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation, the division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is as a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca)

5.2.3 Historic Maps



Figure 2 Segment of <u>Map of Part of Northern Ontario Showing the Northern Part</u> of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)

This map illustrates the location of the study area and environs as of 1904 and indicates that no permanent settlement in immediate proximity to the proposed undertaking had occurred by that date.

5.2.4 Summary

The Montreal River was a major source of communication and trade extending back into the pre-contact period of human occupation in Ontario. European explorers and fur traders employed this already developed system of communication and trade well into the 19th century until waterborne transportation was finally supplanted by the development of shipping canals, road networks and railway systems. Given the close proximity of the study area to the Montreal River, the area in general is considered to have high potential for sites related to First Nations activity and the fur trade era.

5.3 Archaeological Context

5.3.1 Location



Figure 3 Location of the Study Area

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken as a component study of the Environmental Assessment process for projects subject to the Renewable Energy Act (REA). All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards</u>

and Guidelines for Consultant Archaeologists (MCL 2009), the Ontario Heritage Act (RSO 1990), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The proposed undertaking was subject to reconnaissance and photographic documentation concurrently with the conduct of the Stage 2 Archaeological Assessment. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject physical assessment on July 14 & 15, 2010. Areas of assessable lands within 50m of water were subject to high intensity test pit survey at an interval of five metres between individual test pits, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual test pits. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The location of the study area is illustrated in Figure 3 above. Approximately 49.72 hectares in size, the study area is comprised of a series of twelve (12) proposed turbine locations, two (2) substations, and access roads and internal electrical lines connecting the above installations. The proposed undertaking is entirely contained within a forest environment. The nearest major intersection is located at the Hwy 17 and Mackay Road, roughly 2908m northwest of the proposed undertaking. An aerial photograph of the study area is included within this report as Figure 4 and a contour map of the study area is included within this report as Figure 5.

5.3.2 Physiographic Region

The proposed undertaking is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest border is significantly north of the proposed undertaking (J.V. Wright: 1972:6).

5.3.3 Surface Water

An unnamed tributary stream of the Montreal River courses through the area of the proposed undertaking from the southeast to the northwest. A small lake is situated at the eastern edge of the study area. Each would have served as a source of potable water and associated resources for human occupants of the area in the past. The proposed undertaking is within 2.2 kilometres of the Montreal River, both a source of potable water and a historically significant navigable waterway. The proposed undertaking was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews 1970: 10). Therefore there is low potential for archaeological resources related to archaeological resources of the Palaeo-Indian period. However, the area exhibits high potential for archaeological deposits related to all subsequent periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.4 Current Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what manner the physical assessment should be conducted. Conventional assessment methodology includes pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. Where there is reason to believe that deeply buried archaeological deposits may have been capped by subsequent landscape modification activities, alternative assessment strategies may be necessary.

Figure 4 shows the current property conditions and assessment methodologies together with field reconnaissance photograph locations superimposed over an aerial photograph. Field reconnaissance photographs are included at the end of this report.





For the purpose of determining where physical assessment is necessary and practical, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area does not contain any existing structures.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15). Additional built features which fall into this category include driveways, walkways and trails composed of either gravel or asphalt or concrete; in-ground pools; and wells or cisterns. Utility lines are conduits which provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area does contain previous disturbances. The most southerly of the proposed roadways is an existing gravel road. This disturbance encompasses the whole of the assessed corridor as gravel has been spread out past the 20m corridor in order to establish a flat grade. At the southern end of the study area is the location of a proposed substation; this area consisted of gravel fill and mounded back dirt presumably from the road construction. There is a similar area of gravel road construction along the road from the proposed location of Turbine 5 to the proposed location of turbine 6; this disturbance encompasses the whole of the assessed corridor. A portion of the roadway between the proposed location of Turbine 6 and the proposed location of Turbine 9 is also an area of gravel road construction; this disturbance encompasses the whole of the assessed corridor. The final area of previous

disturbance is located in the north western area of the study area at the location of a proposed substation. This area is a former quarry.

5.4.3 Low-Lying and Wet Areas

Landscape features which are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain low lying and wet areas. The proposed road network is crossed by two unnamed creeks. In both cases the lands adjacent to the channel are boggy and not testable for a distance of roughly 10 metres to either side of the stream. The area of proposed turbine 6 was also a low lying and wet area. Finally the proposed electrical line corridor is crossed in two places by a creek and is wet on both sides of the stream for a distance of ten metres from both banks.

5.4.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope. Those portions of the proposed roadways that were not previously disturbed and more than 150 metres from water were all steep slopes consisting of broken rocky terrain and very steep hillsides and cliffs.

5.4.5 Wooded Areas

Areas of the property which cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

The study area is entirely contained within a forest environment. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential. Two areas requiring assessment by the above criteria were located at proposed turbine location number 4 and at proposed turbine location number 10. Both of these proposed turbine locations were within 150m of water but beyond 50m. These proposed turbine sites were accordingly assessed at an interval of ten metres between individual test pits. For the purposes of the assessment, turbine sites were assumed to measure 100 metres in diameter to allow for component lay down area, crane location and the construction sites. A portion of the proposed electrical line corridor is within 50m of water, and a longer portion is within 150m of water.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands which have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area does not contain ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be too small to plough, such as yard areas surrounding existing structures, margins of road allowances, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does not contain an area of lawn.

6.0 FIELD METHODS

This report confirms that the entirety of the proposed undertaking was subject to visual inspection, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The property reconnaissance and assessment were completed under sunny skies on July 14 & 15, 2010. The temperature at the time of the reconnaissance and assessment was 26°C. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report. Upon completion of the field reconnaissance of the proposed undertaking, it was determined that select areas would require Stage 2 archaeological assessment consisting of test pit survey methodology.

6.1 Photo Reconnaissance

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the proposed undertaking to facilitate Stage 2 assessment. All areas of the proposed undertaking were visually inspected and photographed. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report.

6.2 Test Pit Survey

In accordance with the draft <u>Standards and Guidelines for Consultant Archaeologists</u>, test pit survey is required to be undertaken for those portions of the proposed undertaking where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Areas of steep slope and areas that are low-lying and wet were not subject to Stage 2 survey.

"1. Test pit survey only on terrain where ploughing is not possible or viable, such as:

- *a. wooded areas*
- b. pasture with high rock content
- c. abandoned farmland with heavy brush and weed growth

d. orchards and vineyards that cannot be strip-ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey

e. very small properties (one hectare or less)

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out.

2. Do not use test pit survey on actively or recently cultivated agricultural land." (MCL 2009: 12)

The requirements to be followed in the conduct of test pit survey area specified below:

- 1. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential.
- 2. Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential.
- 3. Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance.
- 4. Ensure that test pits are at least 30 cm in diameter.
- 5. Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.
- 6. Screen soil through mesh no greater than 6 mm
- 7. Backfill all test pits unless instructed not to by the landowner.

(MCL 2009: 12)

The requirements for test pitting in northern and eastern Ontario are specified below:

1. As an alternative to general test pit survey standards 1 and 2, a modified test pit survey interval may be used for northern and Canadian Shield terrain:

- a. At 0-50m from any feature of archaeological potential, space test pits at maximum intervals of 5m.
- b. At 50-150m from any feature of archaeological potential, space test pits at maximum intervals of 10m. Survey is not required beyond 150m.
- c. Clustered test pits may be used to survey small areas of archaeological potential located in areas otherwise determined to be of low archaeological potential.
- d. While maintaining standard survey grids as closely as possible, the consultant archaeologist may vary from standard survey grids as necessary, based on professional judgement. Document and explain the rationale for all variations in the stage 2 report.

(MCL 2009: 15)

Test pits are measured roughly 30 centimeters in diameter and were dug at least 5 centimeters into the subsoil beneath the topsoil layer where not refused by shallow depths to bedrock. All excavated earth was screened through 6 mm wire mesh to ensure that any artifacts contained within the soil matrix are recovered.




7. ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. The proposed undertaking was subject to reconnaissance and photographic documentation concurrently with the conduct of the Stage 2 Archaeological Assessment. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject physical assessment on July 14 & 15, 2010. Areas of assessable lands within 50m of water were subject to high intensity test pit survey at an interval of five metres between individual test pits, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual test pits. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

7.1 Stage 1 Analysis and Conclusions

Section 7.7.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 76) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- *1) "Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

7.1.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate archaeological potential (MCL 2009: 5-6). Factors which indicate archaeological potential are features of the local landscape and environment which may have attracted people to either occupy the land or to conduct activities within the proposed undertaking. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously documented archaeological sites related to First Nations activity and occupations have not been documented in the vicinity of the study area. Previously documented archaeological sites related to Euro-Canadian activity and occupations have not been documented in the vicinity of the study area.

2) Primary Water Sources

Primary water sources are describes as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portions of the study area are within 300m of water.

3) Secondary Water Sources

Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

Much of the property consists of low lying and wet areas that would be considered secondary water sources.

4) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

The study area is not located within 300 metres of a past water source.

5) <u>Elevated Topography</u>

Features of elevated topography which indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) Pockets of Well-drained Sandy Soil

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

There were no areas of sandy soil encountered within the study area.

7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is not situated within an area of early settlement.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated in close proximity to the Montreal River which is a historically significant route of communication and trade.

11) Heritage Property

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features or archaeological sites within the study area.

7.1.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MCL 2009: 6). These characteristics are listed below together with considerations derived from the conduct of this study.

The introduction of Section 1.3.2 (MCL 2009: 6) notes that "Archaeological potential has been removed if the entire property or parts of it have been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources, including:"

1) Quarrying

A portion of the study area in the northwest is a former quarry area.

- 2) Major Landscaping Involving Grading Below Topsoil
 - Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties which do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations which penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities which do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

The area in the south of the study area has been deeply disturbed by grading.

3) **Building Footprints**

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars which often obliterate archaeological deposits situated close to the surface.

The study area does not contain any structures.

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma.

4) Sewage and Infrastructure Development

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

The study area does not contain any underground services.

"Archaeological potential is not removed in urban or brownfield properties that have documented potential for deeply buried intact archaeological resources beneath land alterations."

(MCL 2009: 6)

Table 2 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of the presence of access to water and the location of early historic settlement roads adjacent to the study area.

FFA	TURE OF ARCHAFOLOGICAL POTENTIAL	YES	NO	N/A	COMMENT		
1	Known archaeological sites within 200m		N	,,,	If Voc. notontial datarmined		
1		I	N		If Yes, potential determined		
PHY	/SICAL FEATURES	1	1	1			
2	Is there water on or near the property?	Y			If Yes, what kind of water?		
20	Primary water source within 300 m. (lakeshore,	v			If Vac natantial datarminad		
Zd	river, large creek, etc.)	T			n res, potential determined		
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)	Y			If Yes, potential determined		
	Past water source within 300 m. (beach ridge, river						
2c	bed, relic creek, etc.)		Ν		If Yes, potential determined		
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)	Y			If Yes, and Yes for any of 4-9, potential determined		
					If Yes and Yes for any of 3, 5-		
4	Pockets of sandy soil in a clay or rocky area		Ν		9, potential determined		
E	Distinctive land formations (mounds, caverns,		N		If Yes and Yes for any of 3-4,		
5		1			0-9, potential determined		
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		N		If Yes, and Yes for any of 3-5, 7-9, potential determined.		
7	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.)		N		if Yes, and Yes for any of 3-6, 8-9, potential determined		
8	Associated with historic Transportation route (historic road, trail, portage, rail corridors, etc.)	Y			If Yes, and Yes for any 3-7 or 9, potential determined		
9 A PE	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined		
10	Local knowledge (local heritage organizations, First Nations, etc.)		N		If Yes, potential determined		
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)	Y			If Yes, no potential		

Table 4 Evaluation of Archaeological Potential

If YES to any of 1, 2a-c, or 10 Archaeological Potential is confirmed

If YES to 2 or more of 3-9, Archaeological Potential is confirmed

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed**

7.2 Stage 2 Analysis and Recommendations

Section 7.8.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 80) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Physical Assessment.

- 1. Summarize all findings from the Stage 2 survey, or state that no archaeological sites were identified.
- 2. For each archaeological site, provide the following analysis and conclusions:
 - a. A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.
 - b. A comparison against the criteria in Section2: Stage 2: Property Assessment to determine whether further assessment is required
 - c. A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.

No archaeological sites or resources were found during the Stage 2 survey of the study area.

8.0 **RECOMMENDATIONS**

8.1 Stage 1 Recommendations

Under Section 7.7.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:77) the recommendations to be made as a result of a Stage 1 Background Study are described.

1) "Make recommendations regarding the potential for the property, as follows:

a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.

b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.

2) Recommend appropriate Stage 2 assessment strategies."

The study area has been identified as an area of archaeological potential.

The areas not consisting of previous disturbances, low-lying and wet or steep slope that were within 150m of water were determined to have archaeological potential and Stage 2 assessment was therefore conducted using test pit survey methodology.

8.2 Stage 2 Recommendations

Under Section 7.8.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:80) the recommendations to be made as a result of a Stage 2 Physical Assessment are described.

- *1.* For each archaeological site, provide the following:
 - a. Borden number or other identifying number
 - b. Whether or not it recommended for Stage 3 assessment
 - *c.* Where relevant, appropriate Stage 3 assessment strategies (see Section 3: Stage 3 Site-Specific Assessment).
- 2. If deeply buried archaeological sites with a sufficient levl of cultural heritage value or interest are identified, recommend Stage 4 mitigation of impacts and appropriate Stage 4 strategies (see Section 4: Stage 4: Overview of Options for Mitigation of Development Impacts). (Stage 3 is not required.)
- 3. If the survey did not identify an archaeological sites requiring further assessment or mitigation of impacts, recommend no further archaeological assessment of the property be required.

As a result of the physical assessment of the proposed undertaking, no archaeological resources were encountered. Consequently, it is recommended that the proposed undertaking be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

9. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

1. This report is filed with the Minister of Culture in compliance with sec. 65 (1) of the Ontario Heritage Act. The ministry reviews reports to ensure that the licensee has met the terms and conditions of the licence and archaeological resources have been identified and documented according to the standards and guidelines set by the ministry, ensuring the conservation, protection and preservation of the heritage of Ontario. It is recommended that development not proceed before receiving confirmation that the Ministry of Culture has entered the report into the provincial register of reports.

2. Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.

3. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services.

10. BIBLIOGRAPHY AND SOURCES

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Stage 2 Amendment MTCS Response Letter (April 2012)

Ministry of Tourism, Culture and Sport

Culture Programs Unit Programs and Services Branch Culture Division 435 S. James St., Suite 334 Thunder Bay, ON, P7E 6S7 Telephone: 807-475-1632 Facsimile: 807-475-1291 Ministère du Tourisme, de la Culture et du Sport

Unité des programmes culturels Direction des programmes et des services Division de culture 435 rue James sud, Bureau 334 Thunder Bay, ON, P7E 6S7 Téléphone: 807-475-1632 Télécopieur: 807-4751291



Email: andrew.hinshelwood@Ontario .ca

April 17, 2012

M.K. Ince and Associates 11 Cross Street Dundas, ON L9H 2R3

Attn.: K. Mayer-Beck Katie.meyer-beck@mkince.ca

RE: Bow Lake Phase 1

Townships of Smilsky and Peever, District of Algoma

 FIT
 FVXCPUV

 MTC File
 HD00579

 MTC PIF
 P058-579-2010

Dear Proponent:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report(s) you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act's* licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines or the 2011 Standards and Guidelines for Consultant Archaeologists (whichever apply). Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the report(s).*

The Archaeological Assessment Report Entitled, REVISED: Stage 2 Archaeological Assessment, Bow Lake Wind Farm, Phase 1, Townships of Smilsky & Peever, District of Algoma. Original Report dated July 19, 2010, received by MTCS Toronto Office on September 28, 2010, revised report dated January 13, 2012, received by MTCS Toronto Office on January 18, 2012, recommends the following:

• As a result of the physical assessment of the proposed undertaking, no archaeological resources were encountered. Consequently, it is recommended that the proposed undertaking be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the Ontario *Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Hinshelwood.

Andrew Hinshelwood Archaeology Review Officer

 cc. Michael Henry Amick Consultants Ltd.
 380 Talbot St., PO Box 29 Port McNicoll, ON LOK 1R0

^{*} In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Phase 2

Stage 1&2 Combined AMICK Report (November 2010)



1.0 REPORT COVER PAGE

Licensee Information:

Licensee: Archaeology Licence: Contact Information: Michael B. Henry CD BA CAHP P058 AMICK Consultants Limited Lakelands District Office 380 Talbot Street, P.O. Box 29 Port Mc Nicoll, ON L0K 1R0 Phone: (705) 534-1546 Fax: (705) 534-7855 Email: mhenry@amick.ca www.amick.ca

Project Information:

Corporate Project Number MCL Project Number: Project Description: 10595-P P058-645-2010 Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma

Approval Authority Information:

N/A

Reporting Information:

File Number:

Site Record/Update Forms:N/ADate of Report Filing:November 15, 2010

2.0 EXECUTIVE SUMMARY

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage</u> <u>Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 <u>Archaeological Technical Assessment Guidelines</u> (MCZCR 1993).

A Stage 1 Archaeological Background Research study was completed by AMICK Consultants Limited for the study area under the title 'Report on the 2008 Stage 1 Background Research of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma'. As a result a Stage 2 Archaeological Assessment of the study area was recommended.

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject to reconnaissance, photographic documentation and physical assessment between October 5, 2010, and October 7, 2010. Areas of assessable lands within 50m of water are considered high potential and were subject to high intensity test pit survey at an interval of five metres between individual transects, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The entirety of the study area consisted of previously disturbed gravel roadways, low-lying and wet, steep slope, bare rock or areas that were not within 150m of water. There are no assessable areas within the study area. As a result of the physical assessment of the property conducted between October 5, 2010, and October 7, 2010, no archaeological resources were encountered. Consequently, it is recommended that the proposed development be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

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4.0 **PROJECT PERSONNEL**

Consulting Archaeologist

Michael Henry (MTC Professional Archaeologist Licence# P058) **Field Archaeologist** Jason Wootton-Radko (MTC Research Licence #R137) **Field Assistant** Phil Rice (MTC Avocational Licence #A304) James Bouvier Chris Genier Drew Parent **Report Preparation** Niki Yanuziello **Draughting** Phil Rice (MTC Avocational Licence #A304) **Photography** Phil Rice (MTC Avocational Licence #A304) Jason Wootton-Radko (MTC Research Licence #R137)

5.0 **PROJECT BACKGROUND**

5.1 Development Context

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft Standards and Guidelines for Consultant Archaeologists (MCL 2009), the Ontario Heritage Act (RSO 1990), and the Ontario Heritage Amendment Act (SO 2005).



Figure 1 Location of the Study area

The Ministry of Culture (now the Ministry of Tourism and Culture) has released two versions of the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2006 & 2009). Neither version of this document has been officially adopted for use by the province of Ontario as a requirement for licensed archaeologists under the <u>Ontario Heritage Act</u> (RSO 1990) and the <u>Ontario Heritage Amendment Act</u> (SO 2005). The 2009 version of the document is currently undergoing further revision with an anticipated final document coming into effect in 2010. Although there is no current requirement to adhere to the <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the conduct of archaeological investigations undertaken for this project meets or exceeds the proposed requirements. The Ontario Ministry of Tourism and Culture (MTC) is currently enforcing the 1993 <u>Archaeological Technical Assessment Guidelines</u> (MCzCR 1993). The City of Toronto is

enforcing the 2009 <u>Draft Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009)

The 2009 <u>Draft Standards and Guidelines for Consultant Archaeologists</u> summarizes the conduct of Stage 1 Background Studies as follows:

"The consultant archaeologist reviews the geographic, land use, and historical information for the project (all lands that are part of the development proposal) and the relevant surrounding area through a background study. Where necessary, this may be supplemented by a property inspection."

(MCL 2009: iii)

Stage 1 Background Studies are further described in a number of government documents released over a number of years that this stage of archaeological research has been done.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment."

(MCzCR 1993)

The evaluation of potential for heritage resources is further elaborated in Section 5.3 of the <u>Guideline for Preparing the Cultural Heritage Resource Component of Environmental</u> <u>Assessments</u> (1992) prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

"Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors which may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.
- Historical context of the region encompassing the affected area.
- Description of previous land uses of the affected area, including nature and extent of previous development disturbances."

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required." (MCC & MOE 1992: 6-7)

"When potential is confirmed for any of the property, the archaeological assessment requirement will apply to the entire parcel of land (excluding any extensively disturbed areas or specific areas determined to be of low potential by the consultant archaeologist)"

(MCL 2005: 15)

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on May 4, 2010. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The objectives of a Stage 1 Background Study are detailed in the 2009 draft Standards and Guidelines for Consultant Archaeologists:

- 1) "To provide information about the property's geography, history, previous archaeological fieldwork and current land condition;
- 2) To evaluate in detail the property's archaeological potential which will support recommendations for Stage 2 survey for all or parts of the property;
- 3) To recommend appropriate strategies for Stage 2 survey.

(MCL 2009: 1)

5.2 Historical Context

5.2.1 Registered Archaeological Sites

As part of the present study, background research was conducted in order to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to assist in the assessment of the archaeological potential of the study area and in order to establish the significance of any resources which might be encountered during the conduct of the present study. The requisite data was collected from the Programs and Services Branch, Culture Services Unit, MTC and the corporate research library of AMICK Consultants Limited.

The Archaeological Sites Database indicates that there are no previously documented sites within the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. It must also be noted that the lack of formerly documented sites does not indicate that there are no sites present, as the documentation of any archaeological site is contingent upon prior research having been conducted on the study area.

First Nations Archaeological Sites

A summary of registered and/or known archaeological sites within a 2-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the study area.

Period		Group	Date Range	Traits
		Γ		
Palaeo-Indian		Fluted Point	9500-8500 B.C.	Big game hunters.
		Hi-Lo	8500-7500 B.C.	Small nomadic groups.
		1		
Archaic Early			8000-6000 B.C	Hunter-gatherers.
Middle		Laurentian	6000-200 B.C.	Territorial divisions arise.
Late		Lamoka	2500-1700 B.C.	Ground stone tools appear.
		Broadpoint	1800-1400 B.C.	
		Crawford Knoll	1500-500 B.C.	
		Glacial Kame	c.a. 1000 B.C.	Elaborate burial practices.
Woodland	Early	Meadowood	1000-400 B.C.	Introduction of pottery.
		Red Ochre	1000-500 B.C.	
Middle		Point Peninsula	400 B.C500 A.D.	Long distance trade.
		Princess Point	500-800 A.D.	Horticulture.
Late		Pickering	800-1300 A.D.	Villages and agriculture.
		Uren	1300-1350 A.D.	Larger villages.
		Middleport	1300-1400 A.D.	
		Huron	1400-1650 A.D.	Warfare
Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
	Late	Euro-Canadian	1785 A.D.+	European settlement.

Table 1 Cultural Chronology for South-Central Ontario

Euro-Canadian Archaeological Sites

A summary of registered and/or known archaeological sites within a two (2) kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation. The division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca)

5.2.3 Historic Maps



Figure 2 Segment of <u>Map of Part of Northern Ontario Showing the Northern Part</u> of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)

This map illustrates the location of the study area and environs as of 1904 and indicates that no permanent settlement in immediate proximity to the study area had occurred by that date.

5.2.4 Summary

The data provided from the Ministry of Tourism and Culture indicates no (0) Euro-Canadian archaeological sites are in the vicinity. Due to the lack of a historic transportation system nearby and lack of apparent settlement the study area is considered to have low potential for Euro-Canadian resources.

5.3 Archaeological Context

5.3.1 Location



Figure 3 Location of the Study Area

This report describes the results of the Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Culture (MCL) draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009), the <u>Ontario Heritage Act</u> (RSO 1990), and the <u>Ontario Heritage Amendment Act</u> (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject to reconnaissance, photographic documentation and physical assessment between October 5, 2010, and October 7, 2010. Areas of assessable lands within 50m of water are considered high potential and were subject to high intensity test pit survey at an interval of five metres between individual transects, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The location of the study area is illustrated in Figure 3 above. The study area is a series of proposed roadways and wind farm locations that are entirely surrounded by forest. The nearest major intersection is located at the Hwy 17 and Mackay Road, roughly 2908m northwest of the study area. Aerial photographs of the study area are included within this report as Figures 4 and 5 and contour maps of the study area are included within this report as Figures 6 and 7.

5.3.2 Physiographic Region

The study area is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest border is significantly north of the study area (J.V. Wright: 1972:6).

5.3.3 Surface Water

The study area contains a scattering of several small bodies of water and creeks, with the greatest concentration occurring within the northern portion of the property. In addition, there are two larger lakes, namely Bow Lake and Negick Lake, roughly midway down and stretching east to west across the property. All water courses are potable sources of water. The study area is within 2220m of the Montreal River, both a source of potable water and a navigable waterway. The study area was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews1970: 10). Therefore there is low potential for archaeological resources related to archaeological resources of the Palaeo-Indian period. However, the area exhibits high potential for archaeological deposits related to all subsequent periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.4 Current Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what manner the physical assessment should be conducted. Conventional assessment methodology includes pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. Where there is reason to believe that deeply buried archaeological deposits may have been capped by subsequent landscape modification activities, alternative assessment strategies may be necessary.

Figure 4 and 5 show the current property conditions and assessment methodologies together with field reconnaissance photograph locations superimposed over an aerial photograph. Field reconnaissance photographs are included at the end of this report.

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Figure 4 Aerial Photo of Phase 2a

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Figure 5 Aerial Photo of the Phase 2b

For the purpose of determining where physical assessment is necessary and practical, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area does contain an existing structure. There is a small existing wooden lodge located approximately midway along the most northerly of the proposed roads, leading to the proposed location of Tower 18.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15). Additional built features which fall into this category include driveways, walkways and trails composed of either gravel or asphalt or concrete; in-ground pools; and wells or cisterns. Utility lines are conduits which provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area does contain previous disturbances. The most southerly of the proposed roadways is an existing gravel road constructed of gravel fill. This disturbance encompasses the whole of the assessed area. On the northern side of this road there is an existing gravel pit. Past the site of the proposed building the existing gravel road turns north before heading west towards the proposed location of Tower 36. There is a cleared dirt track between the proposed location of Tower 36 and the proposed location of Tower 32. The most northerly of the proposed roads, leading south toward the proposed location of Tower 18, is also an existing gravel road.

5.4.3 Low-Lying and Wet Areas

Landscape features which are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain several low lying and wet areas. The proposed road network at the south end of the property is crossed by an unnamed creek. Lands on either side out roughly 10m are boggy and not testable and past this are existing disturbed gravel roadway. The proposed location of Tower 39 is a cedar swamp, the roadway north of this crosses exposed bare rock. The proposed roadway running between the proposed location of Tower 18 and the proposed location of Tower 20 is partially low lying and wet bordered by steep slope. The Tap line crosses three wet area bordered on either side by steep slope.

5.4.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope. These areas of slope are generally too steep in the project location, in many locations greater than 20 degrees with little to no flat areas, to have provided suitable locations for settlement. Those portions of the proposed roadways that were not previously disturbed or woodlot over 150m from water were all considered steep slopes. Although the areas of the proposed turbines are not as steep as most of the proposed roadways they are still broken and rolling hills with areas of bare rock that would not be assessable.

5.4.5 Wooded Areas

Areas of the property which cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

The study area does contain wooded areas. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential. Those portions of the proposed roadways and Tower sites that were not previously disturbed and within 150m of water were either steep slope or bare rock, and therefore not assessed.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands which have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area does not contain ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be too small to plough, such as yard areas surrounding existing structures, margins of road allowances, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does not contain an area of lawn.

6.0 FIELD METHODS

This report confirms that the entirety of the study area was subject to visual inspection, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The property reconnaissance and assessment were completed under sunny skies between October 5, 2010 and October 7, 2010. The temperature at the time of the reconnaissance and assessment was 15°C. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report.

6.1 Photo Reconnaissance

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate Stage 2 assessment. All areas of the study area were visually inspected and photographed. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report.

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Figure 6 Plan of the Phase 2a

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Figure 7 Plan of the Phase 2b
7. ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 2 Archaeological Assessment of the study area and was granted permission to carry out archaeological fieldwork on July 12, 2010. Those portions of the property which did not consist of low lying and wet lands and steep slope were subject to reconnaissance, photographic documentation and physical assessment between October 5, 2010 and October 7, 2010. Areas of assessable lands within 50m of water are considered high potential and were subject to high intensity test pit survey at an interval of five metres between individual transects, areas between 50m and 150m from water are considered as low potential and were subject to low intensity test pit survey at an interval of ten metres between individual transects. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

7.1 Stage 1 Analysis and Conclusions

Section 7.7.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 76) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- 1) *"Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

7.1.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate archaeological potential (MCL 2009: 5-6). Factors which indicate archaeological potential are features of the local landscape and environment which may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously documented archaeological sites related to First Nations activity and occupations have not been documented in the vicinity of the study area. Previously documented archaeological sites related to Euro-Canadian activity and occupations have not been documented in the vicinity of the study area.

2) Primary Water Sources

Primary water sources are describes as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portions of the study area are within 300m of water. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential. There were no assessable areas within 150m of water.

3) <u>Secondary Water Sources</u>

Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are three areas of the property that could be called secondary water sources. The one low lying and wet swamp in the northern section is bordered by steep slope, while the two in the south are bordered by exposed rock in the case of the cedar swamp, and existing disturbed roadway in the case of the small creek.

4) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

The study area was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews1970: 10). Therefore there is low potential for archaeological resources related to archaeological resources of the Palaeo-Indian period.

5) <u>Elevated Topography</u>

Features of elevated topography which indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) Pockets of Well-drained Sandy Soil

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

There were no areas of sandy soil encountered within the study area.

7) **Distinctive Land Formations**

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated within an area still unsettled.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated between 250m and 8km from the Montreal River which is a historically significant route of communication and trade.

11) <u>Heritage Property</u>

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties

which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features or archaeological sites within the study area.

7.1.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MCL 2009: 6). These characteristics are listed below together with considerations derived from the conduct of this study.

The introduction of Section 1.3.2 (MCL 2009: 6) notes that "Archaeological potential has been removed if the entire property or parts of it have been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources, including:"

1) Quarrying

There is no evidence of quarrying within the study area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties which do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations which penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities which do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

There is no evidence of grading within the study area.

3) **Building Footprints**

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars which often obliterate archaeological deposits situated close to the surface.

The study area contains a small lodge.

4) <u>Sewage and Infrastructure Development</u>

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

The study area does not contain any underground services.

"Archaeological potential is not removed in urban or brownfield properties that have documented potential for deeply buried intact archaeological resources beneath land alterations."

(MCL 2009: 6)

Table 2 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of the presence of access to water and the location of early historic settlement roads adjacent to the study area.

FEA	FEATURE OF ARCHAEOLOGICAL POTENTIAL			N/A	COMMENT	
1	Known archaeological sites within 300m		Ν		If Yes, potential determined	
PH	PHYSICAL FEATURES					
2	Is there water on or near the property?	Y			If Yes, what kind of water?	
2a	Primary water source within 300 m. (lakeshore, river, large creek, etc.)	Y			If Yes, potential determined	
2b	Secondary water source within 300 m. (stream, spring, marsh, swamp, etc.)	Y			If Yes, potential determined	
2c	Past water source within 300 m. (beach ridge, river bed, relic creek, etc.)		N		If Yes, potential determined	
3	Elevated topography (knolls, drumlins, eskers, plateaus, etc.)	Y			If Yes, and Yes for any of 4-9, potential determined	
4	Pockets of sandy soil in a clay or rocky area		N		If Yes and Yes for any of 3, 5- 9, potential determined	
5	Distinctive land formations (mounds, caverns, waterfalls, peninsulas, etc.)		N		If Yes and Yes for any of 3-4, 6-9, potential determined	
HIS	TORIC/PREHISTORIC USE FEATURES					
6	Associated with food or scarce resource harvest areas (traditional fishing locations, agricultural/berry extraction areas, etc.)		N		If Yes, and Yes for any of 3-5, 7-9, potential determined.	
7	Indications of early Euro-Canadian settlement (monuments, cemeteries, structures, etc.)		N		if Yes, and Yes for any of 3-6, 8-9, potential determined	
8	Associated with historic Transportation route (historic road, trail, portage, rail corridors, etc.)		N		If Yes, and Yes for any 3-7 or 9, potential determined	
9	Contains property designated and/or listed under the Ontario Heritage Act (municipal heritage committee, municipal register, etc.)		N		If Yes and, Yes to any of 3-8, potential determined	
APr	Local knowledge (local beritage organizations First					
10	Nations, etc.)		N		If Yes, potential determined	
11	Recent disturbance not including agricultural cultivation (post-1960-confirmed extensive and intensive including industrial sites, aggregate areas, etc.)	Y			If Yes, no potential	

Table 4 Evaluation of Archaeological Potential

If YES to any of 1, 2a-c, or 10 Archaeological Potential is confirmed

If YES to 2 or more of 3-9, Archaeological Potential is confirmed

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed**

7.2 Stage 2 Analysis and Recommendations

Section 7.8.3 of the draft <u>Standards and Guidelines for Consultant Archaeologists</u> (MCL 2009: 80) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Physical Assessment.

- 1. Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.
- 2. For each archaeological site, provide the following analysis and conclusions:
 - a. A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.
 - b. A comparison against the criteria in Section2: Stage 2: Property Assessment to determine whether further assessment is required
 - c. A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.

No archaeological sites or resources were found during the Stage 2 survey of the study area.

8.0 **RECOMMENDATIONS**

8.1 Stage 1 Recommendations

Under Section 7.7.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:77) the recommendations to be made as a result of a Stage 1 Background Study are described.

1) "Make recommendations regarding the potential for the property, as follows:

a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.

b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.

2) Recommend appropriate Stage 2 assessment strategies."

The study area has been identified as an area of low archaeological potential.

 The entirety of the study area consisted of previously disturbed gravel roadways, low-lying and wet, steep slope, bare rock or areas that were not within 150m of water. There are no assessable areas within the study area.

8.2 Stage 2 Recommendations

Under Section 7.8.4 of the draft Standards and Guidelines for Consultant Archaeologists (MCL 2009:80) the recommendations to be made as a result of a Stage 2 Physical Assessment are described.

- 1. For each archaeological site, provide the following:
 - a. Borden number or other identifying number
 - b. Whether or not it recommended for Stage 3 assessment
 - c. Where relevant, appropriate Stage 3 assessment strategies (see Section 3: Stage 3 Site-Specific Assessment).
- 2. If deeply buried archaeological sites with a sufficient levl of cultural heritage value or interest are identified, recommend Stage 4 mitigation of impacts and appropriate Stage 4 strategies (see Section 4: Stage 4: Overview of Options for Mitigation of Development Impacts). (Stage 3 is not required.)
- 3. If the survey did not identify an archaeological sites requiring further assessment or mitigation of impacts, recommend no further archaeological assessment of the property be required.

The entirety of the study area consisted of previously disturbed gravel roadways, low-lying and wet, steep slope, bare rock or areas that were not within 150m of water. There are no assessable areas within the study area. As a result of the physical assessment of the property, no archaeological resources were encountered. Consequently, it is recommended that the proposed development be considered cleared of any further requirement for archaeological fieldwork. Any current or future condition of development respecting archaeological resources should be considered as addressed.

9. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

1. This report is filed with the Minister of Culture in compliance with sec. 65 (1) of the Ontario Heritage Act. The ministry reviews reports to ensure that the licensee has met the terms and conditions of the licence and archaeological resources have been identified and documented according to the standards and guidelines set by the ministry, ensuring the conservation, protection and preservation of the heritage of Ontario. It is recommended that development not proceed before receiving confirmation that the Ministry of Culture has entered the report into the provincial register of reports.

2. Should previously unknown or unassessed deeply buried archaeological resources be uncovered during development, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.

3. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services.

10. BIBLIOGRAPHY AND SOURCES

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Plate 5 Phase 2a Proposed Turbine Location 19 facing Southwest

Plate 6 Phase 2a Proposed Turbine Location 20 facing East

Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



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Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Report on the 2010 Stage 2 Background Research Of Bow Lake Wind Farm, Phase 2, Townships of Smilsky & Peever, District of Algoma.



Stage 2 MTC Response Letters (April 2011)

Ministry of Tourism and Culture

Culture Programs Unit Programs and Services Branch Culture Division 435 S. James St., Suite 334 Thunder Bay, ON P7E 6S7 Tel.: 807 475-1632 Fax: 807 475-1297

Ministère du Tourisme et de la Culture

Unité des programmes culturels Direction des programmes et des services Division de culture Bureau 334, 435 rue James sud Thunder Bay, ON P7E 6S7 Tél.: 807 475-1632 Téléc.: 807 475-1297



M.K. Ince and Associates 11 Cross St. Dundas, ON L9H 2R3

Attn.: Mr. Thomas Bernacki, P.Eng.

RE: Bow Lake Wind Farm, Phase 2

Townships of Smilsky & Peever, District of Algoma

FIT#: Phase 2A – F7J0C51 Phase 2B - FYPJVV

IRIMS: HD00126

PIF: P058-645-2010

Dear Proponent:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report(s) you have submitted for this project, the Ministry believes the archaeological assessment complies with the Ontario Heritage Act's licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines. Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the Report(s).

The report(s) recommends the following:

• The entirety of the study area consisted of previously disturbed gravel roadways, low-lying and wet, steep slope, bare rock or areas that were not within 150m of water. There are no



Contario

assessable areas within the study area. As a result of the physical assessment of the property, no archaeological resources were encountered. Consequently, it is recommended that the proposed development [area depicted in Figure 4 and 5 of the report filed for PIF P058-645-2010] be considered cleared of any further condition of development respecting archaeological resources as addressed.

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the Ontario *Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Hinshelwood

Andrew Hinshelwood Archaeology Review Officer

cc. Consultant

^{**}In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Stage 2 AMICK Amendment Report (January 2012)



1.0 PROJECT REPORT COVER PAGE

Licensee Information:

Licensee: Archaeology Licence: Contact Information: Michael B. Henry CD BA P058 Lakelands District Office 380 Talbot Street, P.O. Box 29 Port McNicoll, ON L0K 1R0 Phone: (705) 534-1546 Fax: (705) 534-7855 Email: <u>mhenry@amick.ca</u> www.amick.ca

Project Information:

AMICK Project Number:	
MTC Project Number:	
Investigation Type:	
Project Name:	
Project Location:	

11841-P P058-805-2011 Stage 1-2 Archaeological Assessment Bow Lake Amendment Lands Townships of Smilsky & Peever, District of Algoma

Approval Authority Information:

File Designation Number: N/A

Reporting Information:

Site Record/Update Forms: Date of Report Filing: Type of Report: N/A 3 January 2012 ORIGINAL

2.0 EXECUTIVE SUMMARY

This report describes the results of the 2011 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment was undertaken in order to address anticipated conditions of development approval. All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) <u>Standards and Guidelines for Consultant</u> <u>Archaeologists</u> (MTC 2011), the <u>Ontario Heritage Act</u> (RSO 1990a), and the <u>Ontario Heritage Amendment Act (SO 2005)</u>.

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on October 21. 2011. Those portions of the property that did not consist of steep slope, exposed rock, low-lying and wet lands and were within 50 metres of a low-lying and wet area were subject to reconnaissance, photographic documentation and assessment on October 25, 2011. Those portions of the property which were within 50 metres of a low-lying and wet area consisted of low-lying and wet cedar forest and therefore could not be assessed using conventional methodology and do not require any further physical assessment. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

Determination of lands located within 50 metres of a low-lying and wet area was based on topographic maps of the area, high-resolution satellite imagery and these inferred conditions were confirmed through ground truthing during reconnaissance.

As a result of the physical assessment of the property, no archaeological resources were encountered. Consequently, it is recommended no further archaeological assessment of the property is required.

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4.0 **PROJECT PERSONNEL**

Consulting Archaeologist

Michael Henry (MTC Professional Archaeologist Licence #P058) **Project Archaeologist** Derek Lincoln (MTC Professional Archaeologist Licence #P344) **Field Assistants** Phil Rice (MTC Avocational Archaeologist Licence #A304) **Report Preparation** Sarah MacKinnon (MTC Research Archaeologist Licence #R389) Michael Henry (MTC Professional Archaeologist Licence #P058) **Draughting** Sarah MacKinnon (MTC Research Archaeologist Licence #R389) Photography

Photography

Derek Lincoln (MTC Professional Archaeologist Licence #P344)

5.0 **PROJECT BACKGROUND**

5.1 Development Context

This report describes the results of the 2011 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This investigation was undertaken as a component study of the Renewable Energy Approval (REA) process for approval from the Ministry of the Environment (MOE). All work was conducted in conformity with the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011), the <u>Ontario Heritage Act</u> (RSO 1990), the <u>Ontario Heritage Amendment Act</u> (SO 2005), and the <u>Ontario Regulation for Renewable Energy Approvals</u> (O. Reg. 359/09).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 21 October 2011. This report confirms that the entire property was subject to reconnaissance and photographic documentation. Those portions of the property that did not consist of steep slope, exposed rock, or permanently low-lying and wet areas, and were within 50 metres of sources of water were subject to physical assessment on 25 October, 2011. Those portions of the property which were within 50 metres of a source of water were found to consist of permanently lowlying and wet cedar forest and therefore could not be assessed using conventional methodology and as such, this area does not require any further investigation.

All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

5.2 Historical Context

As part of the present study, background research was conducted in order to determine the archaeological potential of the proposed project area.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment."

(OMCzCR 1993)

The evaluation of potential for heritage resources is further elaborated Section 5.3 of the Guideline for Preparing the Cultural Heritage Resource Component of Environmental

<u>Assessments</u> (1992) prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

"Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors which may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.
- *Historical context of the region encompassing the affected area.*
- Description of previous land uses of the affected area, including nature and extent of previous development disturbances."

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required."

(MCC & MOE 1992: 6-7)

"The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment." (MTC 2011: 17)

In addition, the collected data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the significance of any resources which might be encountered during the conduct of the present study. The requisite archaeological sites data was collected from the Programs and Services Branch, Culture Programs Unit, MTC and the corporate research library of AMICK Consultants Limited

5.2.1 Current Conditions

The study area consists of steep slope, exposed rock, and low-lying and wet cedar forest. The study area is bounded on all sides by existing forest. A plan of the study area is included within this report as Figures 3 & 4.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation, the division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca 2010)

Figure 2 is a segment of the 1904 <u>Map of Part of Northern Ontario Showing the Northern</u> <u>Part of the District of Nipissing, Algoma and Thunder Bay</u> published by The Copp Clark Co., Toronto.

5.3 Archaeological Context

5.3.1 Registered Archaeological Sites

As part of the present study, background research was conducted in order to determine if any archaeological resources had been formerly documented within or in close proximity to the proposed undertaking and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to assist in the assessment of the archaeological potential of the proposed undertaking and in order to establish the significance of any resources which might be encountered during the conduct of the present study. The requisite data was collected from the Programs and Services Branch, Culture Services Unit, MTC and the corporate research library of AMICK Consultants Limited.

The Archaeological Sites Database administered by MTC indicates that there are no previously documented sites within the study area or within 1 kilometres of the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. In addition, it must also be noted that a lack of formerly documented sites does not indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

Period		Date Range	Traits
		-	
Palaeo		7500-6000 B.C.	Small nomadic groups.
	Laurentian	6000-200 B.C.	Copper tools introduced.
	-		
Early	Laurel	1000 B.C. – 800 A.D.	Introduction of pottery.
			Hopewellian influence.
Late	Algonkian	800-1650 A.D.	Marginal horticulture.
Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.
Late	Euro-Canadian	1870 A.D.+	European settlement.
	Early Early Late Early Late	GroupImage: Constraint of the second state of the se	GroupDate RangePlano7500-6000 B.C.Plano7500-6000 B.C.Laurentian6000-200 B.C.EarlyLaurelLaurel1000 B.C 800 A.D.LateAlgonkianEarlyOdawa, OjibwaI700-1875 A.D.LateEuro-Canadian1870 A.D.+

TABLE 1 Cultural Chronology for Northern Ontario

Registered First Nations Sites

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the study area. However, the lack of formally documented archaeological sites does not mean that First Nations people did not use the area; it more likely reflects a lack of systematic archaeological research in the immediate vicinity.

The distance to water criteria used to establish potential for archaeological sites suggests potential for First Nations occupation and land use in the area in the past. This consideration establishes archaeological potential within select portions the study area.

Registered Euro-Canadian Sites

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.3.2 Location and Current Conditions

This report describes the results of the 2011 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This investigation was undertaken as a component study of the Renewable Energy Approval (REA) process for approval from the Ministry of the Environment (MOE). All work was conducted in conformity with the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011), the <u>Ontario Heritage Act</u> (RSO 1990), the <u>Ontario Heritage Amendment Act</u> (SO 2005), and the <u>Ontario Regulation for Renewable Energy Approvals</u> (O. Reg. 359/09).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 21 October 2011. This report confirms that the entire property was subject to reconnaissance and photographic documentation. Those portions of the property that did not consist of steep slope, exposed rock, or permanently low-lying and wet areas, and were within 50 metres of sources of water were subject to physical assessment on 25 October, 2011. Those portions of the property which were within 50 metres of a source of water were found to consist of permanently lowlying and wet cedar forest and therefore could not be assessed using conventional methodology and as such, this area does not require any further investigation.

All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The study area consists of steep slope, exposed rock, and low-lying and wet cedar forest. The study area is bounded on all sides by existing forest. A plan of the study area is included within this report as Figures 3 & 4.

5.3.3 Physiographic Region

The subject property is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest boarder is significantly north of the subject property (J.V. Wright: 1972:6).

5.3.4 Surface Water

Sources of potable water, access to waterborne transportation routes, and resources associated with watersheds are each considered, both individually and collectively to be the highest criteria for determination of the potential of any location to support extended human activity, land use, or occupation. Accordingly, proximity to water is regarded as the primary indicator of archaeological site potential. The <u>Standards and Guidelines for Consultant</u> <u>Archaeologists</u> stipulates that undisturbed lands within 50 metres of a modern water source and 150 metres of a historic water source (such as a glacial lake shoreline) are considered to have archaeological potential (MTC 2011: 35).

An unnamed tributary stream of the Montreal River courses through the area of the proposed undertaking from the southeast to the northwest. A small lake is situated at the eastern edge of the study area. Each would have served as a source of potable water and associated resources for human occupants of the area in the past. The proposed undertaking is within 2.2 kilometres of the Montreal River, both a source of potable water and a historically significant navigable waterway. The proposed undertaking was underneath Glacial Lake Duluth from 9500-8200 BC (Harris & Matthews 1970: 10). Therefore there is low potential for archaeological resources of the Palaeo-Indian period. However, the area exhibits high potential for archaeological deposits related to all subsequent periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.3.5 Summary

Background research indicates that select portions of the study area have potential for archaeological resources of Native origins based on proximity to a source of potable water in the past.

The Montreal River was a major source of communication and trade extending back into the pre-contact period of human occupation in Ontario. European explorers and fur traders employed this already developed system of communication and trade well into the 19th century until waterborne transportation was finally supplanted by the development of shipping canals, road networks and railway systems. Given the close proximity of the study area to the Montreal River, the region in general is considered to have potential for sites related to First Nations activity and the fur trade era.

Archaeological potential does not indicate that there are necessarily sites present, but that environmental and historical factors suggest that there may be as yet undocumented archaeological sites within lands that have not been subject to systematic archaeological research in the past.

5.4 Current Property Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what manner a Stage 2 Property Assessment should be conducted, if necessary. Conventional assessment methodologies include pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. For the purpose of determining where physical assessment is necessary and feasible, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (eg. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbed layer archaeological situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area contains no buildings or structural footprints.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15), as well as driveways made of either gravel or concrete, in-ground pools, and wells or cisterns. Utility lines are conduits which provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area does not contain previous disturbances.

5.4.3 Low-Lying and Wet Areas

Landscape features which are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Permanently low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain permanently low-lying and wet areas.

5.4.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope.

5.4.5 Wooded Areas

Areas of the property which cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

The entire study area is wooded.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands that have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area contains no ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be considered too small to warrant ploughing, (i.e. less than one hectare in area), such as yard areas surrounding existing structures, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also
include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does not contain any lawn, pasture, or meadow.

6.0 FIELD METHODS

This report confirms that the entirety of the study area was subject to visual inspection, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The property reconnaissance was completed in ideal conditions under sunny skies on 25 October 2011. The temperature at the time of the reconnaissance was 10°C. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 5 & 6 of this report. Upon completion of the field reconnaissance of the study area, it was determined that the only area within 50 metres of a modern source of water consisted of permanently low-lying and wet cedar forest and therefore could not be assessed using conventional methodology and does not require assessment.

6.1 Photo Reconnaissance

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate Stage 2 Property Assessment where appropriate. All areas of the study area were visually inspected and photographed. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 5 & 6 of this report.

The project lands could not be ploughed as they were forested areas. Field reconnaissance showed that the portions of the study area within 50 metres of a source of water consisted of low-lying and wet cedar forest and therefore could not be assessed using conventional methodology and do not require any assessment. All of the lands added to the proposed Bow Lake Wind Farm within 50 metres of a source of water consisted of low-lying and wet cedar forest.

It should be noted that for the purposes of determining archaeological potential water logged or saturated forest floors do not constitute sources of water. Archaeological potential inferred by proximity to water is based upon sources of water which support human occupation in one of three ways. The most basic way is through the provision of potable water for drinking. This directly supports human life and even small fresh water springs can support small groups of people. The second way in which they support human occupations is through the production of, or attraction of, resources that help to sustain human occupations. This would include the attraction of game animals to a source of drinking water, or their prey that likewise gather at water sources, or through edible or useable plants such as wild rice for food or rushes for basketry. The third way in which they support human occupations is

through the provision of transportation of people, goods or ideas rapidly over long distances or with relative ease compared to overland travel. To broadly generalize, the more of these values and functions that are present at a single source, the greater is the number of people that can be sustained in that location. For example, easy access to trade means a more varied supply of food and goods, which raises the standard of living at such sites, and they are thus more attractive places to live.

6.2 Field Work Weather Conditions

The conduct of the Stage 1-2 Archaeological Assessment of the study area was completed in accordance with the above noted standards on 25 October 2011. The temperature was around 10°C. The work was completed under sunny skies. Weather conditions were appropriate for the conduct of archaeological fieldwork.

7.0 RECORD OF FINDS

7.1 Archaeological Resources

No archaeological resources of any description were encountered anywhere within the study area.

7.2 Archaeological Fieldwork Documentation

The documentation produced during the field investigation conducted in support of this report includes: one sketch map, one page of photo log, one page of field notes, and 10 digital photographs.

8.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on October 21. 2011. Those portions of the property that did not consist of steep slope, exposed rock, low-lying and wet lands and were within 50 metres of a low-lying and wet area were subject to reconnaissance, photographic documentation and assessment on October 25, 2011. Those portions of the property which were within 50 metres of a low-lying and wet area consisted of low-lying and wet cedar forest and therefore could not be assessed using conventional methodology and do not require any further physical assessment. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

Section 7.7.3 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 132) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- *1) "Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

8.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate archaeological potential (MTC 2011: 17-18). Factors which indicate archaeological potential are features of the local landscape and environment which may have attracted people to either occupy the land or to conduct activities within the study area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously documented archaeological sites related to First Nations activity and occupation have not been documented in the vicinity of the study area.

2) <u>Water Sources</u>

In northern Ontario, close proximity to water sources (50 metres) indicates that people had access to readily available sources of potable water and possibly routes of waterborne trade and communication should the study area have been used or occupied in the past.

Portions of the study area are within 50m of water. In the case of properties in northern Ontario areas within 50m of water are considered to be of potential, while areas beyond 50m of modern sources of water are considered to have no potential unless they are within 150 metres of a historic source of water such as a glacial shoreline. In the various glacial periods for which there are known relic beach lines, this property would have been under water and so that criterion for determining potential does not apply to this study.

3) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases

seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are no identified features indicating past water sources within 150 metres of the study area.

4) <u>Accessible or Inaccessible Shoreline</u>

This form of landscape feature would include high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.

There are identified features of elevated topography within the study area.

5) <u>Elevated Topography</u>

Features of elevated topography, which indicate archaeological potential, include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) <u>Pockets of Well-drained Sandy Soil</u>

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

There were no areas of sandy soil encountered within the study area.

7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated within an area still unsettled.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated in close proximity to the Montreal River which is a historically significant route of communication and trade. However, this trade route is more than 100 metres from the study area which means that the presence of this feature does not affect the potential of the study area.

11) <u>Heritage Property</u>

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features, or historic sites, or archaeological sites within the study area.

8.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011: 18-19). These characteristics are listed below together with considerations derived from the conduct of this study. The introduction of Section 1.3.2 (MTC 2011: 18) notes that "*Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as 'disturbed' or 'disturbance', and may include:"*

1) Quarrying

There is no evidence to suggest that quarrying operations were ever carried out within the study area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties which do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations which penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities which do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected directly over older foundations preserving archaeological deposits associated with the earlier occupation.

There is no evidence to suggest that major landscaping operations involving grading below topsoil were ever carried out within the study area.

3) Building Footprints

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars which often obliterate archaeological deposits situated close to the surface.

There are no buildings within the study area.

4) Sewage and Infrastructure Development

Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

There is no evidence to suggest that below ground services of any kind have resulted in impacts to any portion of the study area.

"Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential."

(MTC 2011: 18)

"Archaeological potential is not removed where there is documented potential for deeply buried intact archaeological resources beneath land alterations, or where it cannot be clearly demonstrated through background research and property inspection that there has been complete and intensive disturbance of an area. Where complete disturbance cannot be demonstrated in Stage 1, it will be necessary to undertake Stage 2 assessment."

(MTC 2011: 18)

Table 2 below summarizes the evaluation criteria of the Ministry of Tourism and Culture together with the results of the Stage 1 Background Study for the proposed undertaking. Based on the criteria, the property is deemed to have archaeological potential on the basis of proximity to water.

FFA		YES	NO	N/A	COMMENT
/ .				,//	If Yes, notential
1	Known archaeological sites within 300m		N		determined
PHY	/SICAL FEATURES	1			
2	Is there water on or near the property?	Y			If Yes, what kind of water?
	Primary water source within 50 m. (lakeshore,				If Yes, potential
2a	river, large creek, etc.)		Ν		determined
	Secondary water source within 50 m. (stream,				If Yes, potential
2b	spring, marsh, swamp, etc.)	Y			determined
	Past water source within 150 m. (beach ridge,				If Yes, potential
2c	river bed, relic creek, etc.)		Ν		determined
	Accessible or Inaccessible shoreline within 300 m.				If Yes, potential
2d	(high bluffs, marsh, swamp, sand bar, etc.)		Ν		determined
	Elevated topography (knolls, drumlins, eskers,				If Yes, and Yes for any of 4-
3	plateaus, etc.)	Υ			9, potential determined
					If Yes and Yes for any of 3,
4	Pockets of sandy soil in a clay or rocky area		Ν		5-9, potential determined
					If Yes and Yes for any of 3-
	Distinctive land formations (mounds, caverns,				4, 6-9, potential
5	waterfalls, peninsulas, etc.)		Ν		determined
HIS	TORIC/PREHISTORIC USE FEATURES				
	Associated with food or scarce resource harvest				If Yes, and Yes for any of 3-
	areas (traditional fishing locations,				5, 7-9, potential
6	agricultural/berry extraction areas, etc.)		Ν		determined.
					if Yes, and Yes for any of 3-
	Early Euro-Canadian settlement area within 300				6, 8-9, potential
7	m.		Ν		determined
	Historic Transportation route within 100 m.				If Yes, and Yes for any 3-7
8	(historic road, trail, portage, rail corridors, etc.)		Ν		or 9, potential determined
	Contains property designated and/or listed under				
	the Ontario Heritage Act (municipal heritage				If Yes and, Yes to any of 3-
9	committee, municipal register, etc.)		Ν		8, potential determined
APP	LICATION-SPECIFIC INFORMATION				
	Local knowledge (local heritage organizations,				If Yes, potential
10	First Nations, etc.)		Ν		determined
	Recent disturbance not including agricultural				
	cultivation (post-1960-confirmed extensive and				If Yes, no potential or low
	intensive including industrial sites, aggregate				potential in affected part
11	areas, etc.)		Ν		(s) of the study area.

Table 2 Evaluation of Archaeological Potential

If **YES** to any of 1, 2a-c, or 10 Archaeological Potential is **confirmed**

If YES to 2 or more of 3-9, Archaeological Potential is confirmed

If **YES** to 11 or No to 1-10 Low Archaeological Potential is **confirmed** for at least a portion of the study area.

8.3 Stage 2 Analysis and Recommendations

Section 7.8.3 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 138-139) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Physical Assessment.

- 1. Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.
- 2. For each archaeological site, provide the following analysis and conclusions:
 - a. A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.
 - b. A comparison against the criteria in 2 Stage 2: Property Assessment to determine whether further assessment is required
 - *c.* A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.

No archaeological sites or resources were found during the Stage 2 Property Assessment of the study area.

9.0 **RECOMMENDATIONS**

9.1 Stage 1 Recommendations

Under Section 7.7.4 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 133) the recommendations to be made as a result of a Stage 1 Background Study are described.

Make recommendations regarding the potential for the property, as follows:

 a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.
 b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.

 Recommend appropriate Stage 2 assessment strategies.

The study area has been identified as an area of archaeological potential.

Within the study area the land consists of consists of steep slope, exposed rock, and lowlying and wet cedar forest. All of the study area within 50 metres of a source of water consists of low-lying and wet cedar forest floor. Therefore, although portions of the study area are situated within 50 metres of a source of water, the property cannot be assessed and does not require assessment.

9.2 Stage 2 Recommendations

Under Section 7.8.4 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 139) the recommendations to be made as a result of a Stage 2 Physical Assessment are described.

- For each archaeological site, provide a statement of the following:

 a. Borden number or other identifying number
 b. Whether or not it is of further cultural heritage value or interest
 c. Where it is of further cultural heritage value or interest, appropriate
 Stage 3 assessment strategies

 Make recommendations only regarding archaeological matters
- 2) Make recommendations only regarding archaeological matters. Recommendations regarding built heritage or cultural heritage landscapes should not be included.
- 3) If the Stage 2 survey did not identify any archaeological sites requiring further assessment or mitigation of impacts, recommend that no further archaeological assessment of the property be required.

As a result of the Stage 2 Property Assessment, no archaeological resources were encountered. Consequently, it is recommended no further archaeological assessment of the property is required.

10. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

- a. This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- b. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.
- c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.
- d. The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
- e. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

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- 1993 <u>Archaeological Assessment Technical Guidelines, Stages 1-3 and Reporting Format.</u> OMCzCR, Cultural Programs Branch, Archaeology and Heritage Planning, Toronto.

Ontario Ministry of Culture (MCL)

2005 <u>Conserving a Future for Our Past: Archaeology, Land Use Planning & Development</u> in Ontario (An Educational Primer and Comprehensive Guide for Non-Specialists). Heritage & Libraries Branch, Heritage Operations Unit, Toronto.

- 2006 <u>Standards and Guidelines for Consultant Archaeologists</u> (draft). Heritage & Libraries Branch, Heritage Operations Unit, Toronto.
- 2009 <u>Standards and Guidelines for Consultant Archaeologists</u> (draft). Programs and Services Branch, Culture Programs Unit, Toronto.

Ontario Ministry of Culture and Communications (MCC) & Ministry of Environment (MOE)

1992 <u>Guideline for Preparing the Cultural Heritage Resource Component of Environmental</u> <u>Assessments</u>. Cultural Programs Branch, Archaeology and Heritage Planning, Toronto.

Ontario Ministry of Tourism and Culture (MTC)

2009 <u>Standards and Guidelines for Consultant Archaeologists</u> (draft). Programs and Services Branch, Culture Programs Unit, Toronto.

Ontario Ministry of Tourism and Culture (MTC)

2011 <u>Standards and Guidelines for Consultant Archaeologists</u>. Programs and Services Branch, Culture Programs Unit, Toronto.

Wright, J.V.

1972 <u>Ontario Prehistory: An Eleven-thousand Year Archaeological Outline</u>. National Museum of Canada. Ottawa.

Wikipedia

2010 Unorganized North Algoma District. URL: http://en.wikipedia.org/wiki/Algoma, _Unorganized,_North_Part,_Ontario#Montreal_River, as of October 15, 2011.



Figure 1 Location of the Study Area (Google Maps 2011)



Figure 2 Segment of <u>Map of Part of Northern Ontario Showing the Northern Part</u> of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)



Figure 3 Revised Layout (M. K Ince and Associates Ltd., 2011)



Figure 4 Revised Layout (M. K Ince and Associates Ltd., 2011)

2011 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #11841-P/MTC File #P058-805-2011)



Figure 5 Aerial Photo of the Study Area (Google Earth 2011)



2011 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #11841-P/MTC File #P058-805-2011)



Stage 2 Amendment MTCS Response Letters (April 2012)

Ministry of Tourism, Culture and Sport

Culture Programs Unit Programs and Services Branch Culture Division 435 S. James St., Suite 334 Thunder Bay, ON, P7E 6S7 Telephone: 807-475-1632 Facsimile: 807-475-1291 Ministère du Tourisme, de la Culture et du Sport

Unité des programmes culturels Direction des programmes et des services Division de culture 435 rue James sud, Bureau 334 Thunder Bay, ON, P7E 6S7 Téléphone: 807-475-1632 Télécopieur: 807-4751291



Email: andrew.hinshelwood@Ontario .ca

April 17, 2012

M.K. Ince and Associates 11 Cross Street Dundas, ON L9H 2R3

Attn.: K. Mayer-Beck Katie.meyer-beck@mkince.ca

RE: Bow Lake Amendments Lands

Townships of Smilsky and Peters, District of Algoma

 FIT
 F7JOC51, FYPJVV

 MTC File
 HD00579

 MTC PIF
 P058-805-2011

Dear Proponent:

This letter constitutes the Ministry of Tourism and Culture's written comments as required by s. 22(3)(a) of O. Reg. 359/09 under the *Environmental Protection Act* regarding archaeological assessments undertaken for the above project.

Based on the information contained in the report(s) you have submitted for this project, the Ministry believes the archaeological assessment complies with the *Ontario Heritage Act's* licensing requirements, including the licence terms and conditions and the Ministry's 1993 Archaeological Assessment Technical Guidelines or the 2011 Standards and Guidelines for Consultant Archaeologists (whichever apply). Please note that the Ministry makes no representation or warranty as to the completeness, accuracy or quality of the report(s).*

The Archaeological Assessment Report Entitled, *Stage 1-2 Archaeological Assessment, Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma.* Dated January 13, 2012, received by MTC Toronto Office on January 18, 2012, recommends the following:

• As a result of the Stage 2 Property Assessment, no archaeological resources were encountered. Consequently, it is recommended that no further archaeological assessment of the property is required.

The Ministry is satisfied with these recommendations.

This letter does not waive any requirements which you may have under the Ontario *Heritage Act*. A separate letter addressing archaeological licensing obligations under the Act will be sent to the archaeologist who completed the assessment and will be copied to you.

This letter does not constitute approval of the renewable energy project. Approvals of the project may be required under other statutes and regulations. It is your responsibility to obtain any necessary approvals or licences.

Please feel free to contact me if you have questions or require additional information.

Sincerely,

Winshelwood.

Andrew Hinshelwood Archaeology Review Officer

 cc. Michael Henry Amick Consultants Ltd.
 380 Talbot St., PO Box 29 Port McNicoll, ON L0K 1R0

^{*} In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.

Combined Phases (2012) – for laydown areas and TS area

Stage 2 AMICK Amendment Report (17 September 2012) – Confirmed received by MTC on 21 September, 2012.



1.0 PROJECT REPORT COVER PAGE

Licensee Information:

Licensee: Archaeology Licence: Contact Information: Michael B. Henry CD BA P058 Lakelands District Office 380 Talbot Street, P.O. Box 29 Port McNicoll, ON L0K 1R0 Phone: (705) 534-1546 Fax: (705) 534-7855 Email: <u>mhenry@amick.ca</u> www.amick.ca

Project Information:

AMICK Project Number: MTC Project Number: Investigation Type: Project Name: Project Location: 12049-P P058-893-2012 Stage 1-2 Archaeological Assessment Bow Lake Amendment Lands Townships of Smilsky & Peever, District of Algoma

Approval Authority Information:

File Designation Number:	F-000596-WIN130-601
	F-000673-WIN130-601
	F-000674-WIN130-601

Reporting Information:

Site Record/Update Forms: Date of Report Filing: Type of Report: N/A 17 September 2012 ORIGINAL

2.0 EXECUTIVE SUMMARY

This report describes the results of the 2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment completed as a component study of the Renewable Energy Approval (REA) process for Approval from the Ministry of the Environment (MOE). All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 30 July 2012. Those portions of the property that did not consists of steep slope, exposed rock, low-lying and wet and were within 50 metres of a low-lying and wet area were subject to reconnaissance, photographic documentation and physical assessment on 8 and 9 August 2012. Those portions of the property which were within 50 metres of a low-lying and wet area consisted mostly of lowlying and wet cedar forest and therefore could not be assessed using conventional methodology, however a small area was assessable and was assessed using the test pit methodology. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

As a result of the physical assessment of the property, no archaeological resources were encountered. Consequently, it is recommended no further archaeological assessment of the property is required.

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4.0 **PROJECT PERSONNEL**

Consulting Archaeologist

Michael Henry (MTC Professional Archaeologist Licence #P058)

Project Archaeologist

Kayleigh MacKinnon (MTC Research Archaeologist Licence #R391)

Field Assistants Laura Hunter

Report Preparation Melissa Milne

Draughting Sarah MacKinnon (MTC Research Archaeologist Licence #R389)

Photography Kayleigh MacKinnon (MTC Research Archaeologist Licence #R391)

5.0 PROJECT BACKGROUND

5.1 Development Context

This report describes the results of the 2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment completed as a component study of the Renewable Energy Approval (REA) process for Approval from the Ministry of the Environment (MOE). All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 30 July 2012. Those portions of the property which did not consists of steep slope, exposed rock, low-lying and wet and were within 50 metres of a low-lying and wet area were subject to reconnaissance, photographic documentation and physical assessment on 8 and 9 August 2012. Those portions of the property which were within 50 metres of a low-lying and wet area consisted of mostly of low-lying and wet cedar forest and therefore could not be assessed using conventional methodology, however a small area was assessable and was assessed using the test pit methodology. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

5.2 Historical Context

As part of the present study, background research was conducted in order to determine the archaeological potential of the proposed project area.

"A Stage 1 background study provides the consulting archaeologist and Ministry report reviewer with information about the known and potential cultural heritage resources within a particular study area, prior to the start of the field assessment."

(OMCzCR 1993)

The evaluation of potential for heritage resources is further elaborated Section 5.3 of the <u>Guideline for Preparing the Cultural Heritage Resource Component of Environmental</u> <u>Assessments (1992)</u> prepared by the Ontario Ministry of Culture and Communications (MCC) and the Ontario Ministry of Environment (MOE):

"Generally, lands affected by project development should be classified by the proponent as having high, medium or low potential for the discovery of heritage resources. Since heritage resources are not uniformly distributed across the landscape, not all project areas will exhibit the same likelihood of finding heritage resources. Potential is based on the following geographical and historical factors that may have influenced previous use and settlement of an area:

- Distance from historic transportation routes.
- Distance from sources of water (rivers, lakes, streams, creeks, springs, marshes, swamps, relict creek beds).
- Ability of the terrain to accommodate human settlement. This includes topography, soils and access to plant, animal and mineral resources.
- Documentation of existing heritage resource sites in the affected area and region. Known resources in the affected area, such as architectural features, cultural landscapes or registered archaeological sites, can be evaluated for possible heritage significance by using the evaluation criteria outlined in Section 5.5 of this guideline.
- *Historical context of the region encompassing the affected area.*
- Description of previous land uses of the affected area, including nature and extent of previous development disturbances."

(MCC & MOE 1992: 6)

The evaluation of potential does not indicate that sites are present within areas affected by proposed development. Evaluation of potential considers the possibility for as yet undocumented sites to be found in areas that have not been subject to systematic archaeological investigation in the past. Potential for archaeological resources is used to determine if physical assessment of a property or portions of a property is required.

"Archaeological resources not previously documented may also be present in the affected area. If the alternative areas being considered, or the preferred alternative selected, exhibit either high or medium potential for the discovery of archaeological remains an archaeological assessment will be required."

(MCC & MOE 1992: 6-7)

"The Stage 1 background study (and, where undertaken, property inspection) leads to an evaluation of the property's archaeological potential. If the evaluation indicates that there is archaeological potential anywhere on the property, the next step is a Stage 2 assessment." (MTC 2011: 17)

In addition, the collected data is also used to determine if any archaeological resources had been formerly documented within or in close proximity to the study area and if these same resources might be subject to impacts from the proposed undertaking. This data was also collected in order to establish the significance of any resources that might be encountered during the conduct of the present study. The requisite archaeological sites data was collected from the Programs and Services Branch, Culture Programs Unit, MTC and the corporate research library of AMICK Consultants Limited

5.2.1 Current Conditions

The study area consists of wooded areas, gravel road, ATV track, steep slope, exposed rock, and low-lying and wet cedar forest. The study area is bounded on all sides by existing forest. A plan of the study area is included within this report as Figure 3.

5.2.2 General Historical Outline

Algoma, Unorganized, North Part is an unorganized area in northeastern Ontario, Canada comprising all areas in Algoma District, north of the Sault Ste. Marie to Elliot Lake corridor, which are not part of an incorporated municipality or a First Nation, the division had a population of 5,717 in 2006. The study area is closest to the community of Montreal River Harbour. It is a very small community located at the mouth of the Montreal River just south of Lake Superior Provincial Park. (Wikipedia.ca)

Figure 2 is a segment of the 1904 <u>Map of Part of Northern Ontario Showing the Northern</u> <u>Part of the District of Nipissing, Algoma and Thunder Bay</u> from The Copp Clark Co, Toronto.

5.2.3 Summary of Historical Context

The data provided from the Ministry of Tourism and Culture indicates no (0) Euro-Canadian archaeological sites are in the vicinity. Due to the lack of a historic transportation system nearby and lack of apparent settlement the study area is considered to have low potential for Euro-Canadian resources.

5.3 Archaeological Context

TABLE 1 Cultural Chronology for South-Central Ontario

Period		Group	Date Range	Traits	
Palaeo-Indian		Fluted Point	9500-8500 B.C.	Big game hunters.	
		Hi-Lo	8500-7500 B.C.	Small nomadic groups.	
Archaic	Early		8000-6000 B.C	Hunter-gatherers.	
	Middle	Laurentian	6000-200 B.C.	Territorial divisions arise.	
	Late	Lamoka	2500-1700 B.C.	Ground stone tools appear.	
		Broadpoint	1800-1400 B.C.		
		Crawford Knoll	1500-500 B.C.		
		Glacial Kame	c.a. 1000 B.C.	Elaborate burial practices.	
		Γ			
Woodland	Early	Meadowood	1000-400 B.C.	Introduction of pottery.	
		Red Ochre	1000-500 B.C.		
	Middle	Point Peninsula	400 B.C500 A.D.	Long distance trade.	
		Princess Point	500-800 A.D.	Horticulture.	
	Late	Pickering	800-1300 A.D.	Villages and agriculture.	
		Uren	1300-1350 A.D.	Larger villages.	
		Middleport	1300-1400 A.D.		
		Huron	1400-1650 A.D.	Warfare	
Historic	Early	Odawa, Ojibwa	1700-1875 A.D.	Social displacement.	
	Late	Euro-Canadian	1785 A.D.+	European settlement.	

The Archaeological Sites Database administered by MTC indicates that there are no previously documented sites within the study area or within 1 kilometres of the study area. However, it must be noted that this is based on the assumption of the accuracy of information compiled from numerous researchers using different methodologies over many years. AMICK Consultants Limited assumes no responsibility for the accuracy of site descriptions, interpretations such as cultural affiliation, or location information derived from the Archaeological Sites Database administered by MTC. In addition, it must also be noted that a lack of formerly documented sites does not necessarily indicate that there are no sites present as the documentation of any archaeological site is contingent upon prior research having been conducted within the study area.

Background research shows that three (3) previous studies have taken place within 50m of the study area. For further information see:

- AMICK Consultants Limited. (2011). Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma. Port McNicoll, Ontario. Archaeological License Report on File With the Ministry of Tourism, Culture and Sport, Toronto, Ontario.
- AMICK Consultants Limited. (2008). Stage 1 Background Research of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma. AMICK Consultants Limited, Port McNicoll.
- AMICK Consultants Limited. (2010). *Stage 2 Archaeological Assessment of Bow Lake Wind Farm, Townships of Smilsky & Peever, District of Algoma*. Port McNicoll, Ontario. Archaeological License Report on File With the Ministry of Tourism, Culture and Sport, Toronto, Ontario.

5.3.1 First Nations Occupation

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC. As a result it was determined that no (0) archaeological sites relating directly to First Nations habitation/activity had been formally documented within the immediate vicinity of the study area. However, the lack of formally documented archaeological sites does not necessary mean that the area was not used by First Nations people; it more likely reflects a lack of systematic archaeological research in the immediate vicinity.

The distance to water criteria used to establish potential for archaeological sites suggests potential for First Nations occupation and land use in the area in the past. This consideration establishes archaeological potential within the study area.

5.3.2 Euro-Canadian Settlement

A summary of registered and/or known archaeological sites within a 1-kilometre radius of the study area was gathered from the Archaeological Sites Database, administered by MTC.

As a result it was determined that no (0) archaeological sites relating directly to Euro-Canadian habitation/activity had been formally documented within the immediate vicinity of the study area.

5.3.3 Location and Current Conditions

This report describes the results of the 2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma, conducted by AMICK Consultants Limited. This study was conducted under Archaeological Consulting License #P058 issued to Michael Henry by the Minister of Tourism and Culture for the Province of Ontario. This assessment completed as a component study of the Renewable Energy Approval (REA) process for Approval from the Ministry of the Environment (MOE). All work was conducted in conformity with Ontario Ministry of Tourism and Culture (MTC) Standards and Guidelines for Consultant Archaeologists (MTC 2011), the Ontario Heritage Act (RSO 1990a), and the Ontario Heritage Amendment Act (SO 2005).

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 30 July 2012. Those portions of the property which did not consists of steep slope, exposed rock, low-lying and wet and were within 50 metres of a low-lying and wet area were subject to reconnaissance, photographic documentation and physical assessment on 8 and 9 August 2012. Those portions of the property which were within 50 metres of a low-lying and wet area consisted of mostly of low-lying and wet cedar forest and therefore could not be assessed using conventional methodology, however a small area was assessable and was assessed using the test pit methodology. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

The study area consists of wooded areas, gravel road, ATV track, steep slope, exposed rock, and low-lying and wet cedar forest. The study area is bounded on all sides by existing forest. A plan of the study area is included within this report as Figure 3.

5.3.4 Physiographic Region

The subject property is situated within the Algonquin Highlands physiographic region. This area covers roughly 10 million acres and is characterized by rough ground relief consisting of knobs and ridges with frequent outcrops of exposed bedrock. At its highest areas, the ground level approaches 1,800 feet above sea level and gradually slopes downward to approximately 900 feet above sea level in the west and 600 feet above sea level in the east. Soils of the area are stony, sandy and acidic. Most of the valleys are floored with sand and gravel outwash. The area is also noted for a high frequency of swamps and bogs (Chapman and Putnam 1984: 211). The boreal forest boarder is significantly north of the subject property (J.V. Wright: 1972:6).

5.3.5 Surface Water

Sources of potable water, access to waterborne transportation routes, and resources associated with watersheds are each considered, both individually and collectively to be the highest criteria for determination of the potential of any location to support extended human activity, land use, or occupation. Accordingly, proximity to water is regarded as the primary indicator of archaeological site potential. The <u>Standards and Guidelines for Consultant</u> <u>Archaeologists</u> stipulates that undisturbed lands within 300 metres of a water source are considered to have archaeological potential (MTC 2011: 21).

The study area is close to several bodies of water and waterways. All water courses are potable sources of water. The study area ranges from of the Montreal River, both a source of potable water and a navigable waterway. The area exhibits high potential for archaeological deposits related to all periods of occupation up to and including early evidence of Euro-Canadian occupation and activity in the area, such as early lumber camps.

5.3.6 Summary

Background research indicates the vicinity of the study area has potential for archaeological resources of Native origins based on proximity to a source of potable water in the past.

Archaeological potential does not indicate that there are necessarily sites present, but that environmental and historical factors suggest that there may be as yet undocumented archaeological sites within lands that have not been subject to systematic archaeological research in the past.

5.4 Current Property Conditions Context

Current characteristics encountered within an archaeological research study area determine if physical assessment of specific portions of the study area will be necessary and in what manner a Stage 2 Physical Assessment should be conducted, if necessary. Conventional assessment methodologies include pedestrian survey on ploughable lands and test pit methodology within areas that cannot be ploughed. For the purpose of determining where physical assessment is necessary and feasible, general categories of current landscape conditions have been established as archaeological conventions. These include:

5.4.1 Buildings and Structural Footprints

A building, in archaeological terms, is a structure that exists currently or has existed in the past in a given location. The footprint of a building is the area of the building formed by the perimeter of the foundation. Although the interior area of building foundations would often be subject to physical assessment when the foundation may represent a potentially significant historic archaeological site, the footprints of existing structures are not typically assessed. Existing structures commonly encountered during archaeological assessments are often

residential-associated buildings (houses, garages, sheds), and/or component buildings of farm complexes (barns, silos, greenhouses). In many cases, even though the disturbance to the land may be relatively shallow and archaeological resources may be situated below the disturbed layer (e.g. a concrete garage pad), there is no practical means of assessing the area beneath the disturbed layer. However, if there were evidence to suggest that there are likely archaeological resources situated beneath the disturbance, alternative methodologies may be recommended to study such areas.

The study area contains no buildings or structural footprints.

5.4.2 Disturbance

Areas that have been subjected to extensive and deep land alteration that has severely damaged the integrity of archaeological resources are known as land disturbances. Examples of land disturbances are areas of "past quarrying, major landscaping, recent built and industrial uses, sewage and infrastructure development, etc." (MCL 2005: 15), as well as driveways made of either gravel or concrete, in-ground pools, and wells or cisterns. Utility lines are conduits that provide services such as water, natural gas, hydro, communications, sewage, and others. Areas containing below ground utilities are considered areas of disturbance, and are excluded from Stage 2 Physical Assessment. Disturbed areas are excluded from Stage 2 Physical Assessment due to no or low archaeological potential or because they are not assessable using conventional methodology.

The study area does contain previous disturbances, as a gravel road and ATV track are located within.

5.4.3 Low-Lying and Wet Areas

Landscape features that are covered by permanently wet areas, such as marshes, swamps, or bodies of water like streams or lakes, are known as low-lying and wet areas. Low-lying and wet areas are excluded from Stage 2 Physical Assessment due to inaccessibility.

The study area does contain low-lying and wet areas.

5.4.4 Steep Slope

Landscape which slopes at a greater than (>) 20 degree change in elevation, is known as steep slope. Areas of steep slope are considered uninhabitable, and are excluded from Stage 2 Physical Assessment.

The study area does contain areas of steep slope.
5.4.5 Wooded Areas

Areas of the property that cannot be ploughed, such as natural forest or woodlot, are known as wooded areas. These wooded areas qualify for Stage 2 Physical Assessment, and are required to be assessed using test pit survey methodology.

The study area contains all wooded area.

5.4.6 Ploughable Agricultural Lands

Areas of current or former agricultural lands that have been ploughed in the past are considered ploughable agricultural lands. Ploughing these lands regularly moves the soil around, which brings covered artifacts to the surface, easily identifiable during visual inspection. Furthermore, by allowing the ploughed area to weather sufficiently through rainfall washing soil off any artifacts, the visibility of artifacts at the surface of recently worked field areas increases significantly. Pedestrian survey of ploughed agricultural lands is the preferred method of physical assessment because of the greater potential for finding evidence of archaeological resources if present.

The study area contains no ploughable lands.

5.4.7 Lawn, Pasture, Meadow

Landscape features consisting of former agricultural land covered in low growth, such as lawns, pastures, meadows, shrubbery, and immature trees. These are areas that may be considered too small to warrant ploughing, (i.e. less than one hectare in area), such as yard areas surrounding existing structures, and land-locked open areas that are technically workable by a plough but inaccessible to agricultural machinery. These areas may also include open area within urban contexts that do not allow agricultural tillage within municipal or city limits or the use of urban roadways by agricultural machinery. These areas are required to be assessed using test pit survey methodology.

The study area does not contain any lawn, pasture, or meadow.

6.0 FIELD METHODS

This report confirms that the entirety of the study area was subject to visual inspection, and that the fieldwork was conducted according to the archaeological fieldwork standards and guidelines, including weather and lighting conditions. The property reconnaissance and assessment were completed in ideal conditions under sunny skies on 8 and 9 August 2012. The temperature at the time of the reconnaissance and assessment was 25°C and 22°C, respectively. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report. Upon completion of the field reconnaissance of the study area, it was determined that one select area which was within 50 metres of a low-lying and wet area would require Stage

2 archaeological assessment consisting of test pit survey methodology. Those portions of the property which were within 50 metres of a low-lying and wet area and consisted of a wooded area could be assessed using conventional methodology.

6.1 Photo Reconnaissance

A detailed examination and photo documentation was carried out on the study area in order to document the existing conditions of the study area to facilitate Stage 2 assessment. All areas of the study area were visually inspected and photographed. The locations from which photographs were taken and the directions toward which the camera was aimed for each photograph are illustrated in Figures 4 & 5 of this report.

The project lands could not be ploughed, as they were forested areas. Upon field assessment the areas within 50 metres of a low-lying and wet area consisted of a wooded area and could be assessed using conventional methodology. Approximately 90% of the study area consisted of low-lying and wet cedar forest, 8% steep slope and 2% was the gravel road and ATV track.

6.2 Test Pit Survey

In accordance with the <u>Standards and Guidelines for Consultant Archaeologists</u>, test pit survey is required to be undertaken for those portions of the study area where deep prior disturbance had not occurred prior to assessment or which were accessible to survey. Test pit survey is only used in areas that cannot be subject to ploughing or cultivation. This report confirms that the conduct of test pit survey within the study area conformed to the following standards:

1. Test pit survey only on terrain where ploughing is not possible or viable, as in the following examples:

a. wooded areas

[All wooded areas were test pit at an interval of 5 m between individual test pits]

b. pasture with high rock content

[Not Applicable - The study area does not contain any pastures with high rock content]

c. abandoned farmland with heavy brush and weed growth [Not Applicable - The study area does not contain any abandoned farmland with heavy brush and weed growth]

d. orchards and vineyards that cannot be strip-ploughed (planted in rows 5 m apart or less), gardens, parkland or lawns, any of which will remain in use for several years after the survey

[Not Applicable - The study area does not contain any of the above mentioned circumstances]

e. properties where existing landscaping or infrastructure would be damaged.
The presence of such obstacles must be documented in sufficient detail to demonstrate that ploughing or cultivation is not viable.
[Not Applicable - The study area does not contain the above mentioned circumstances

f. narrow (10 m or less) linear survey corridors (e.g., water or gas pipelines, road widening). This includes situations where there are planned impacts 10 m or less beyond the previously impacted limits on both sides of an existing linear corridor (e.g., two linear survey corridors on either side of an existing roadway). Where at the time of fieldwork the lands within the linear corridor meet the standards as stated under the above section on pedestrian survey land preparation, pedestrian survey must be carried out. Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential. [Not Applicable – The study area does not contain any linear corridors]

- Space test pits at maximum intervals of 5 m (400 test pits per hectare) in areas less than 300 m from any feature of archaeological potential. [All test pits were spaced at an interval of 5m between individual test pits]
- Space test pits at maximum intervals of 10 m (100 test pits per hectare) in areas more than 300 m from any feature of archaeological potential. [The entirety of the test pittable areas of the study area were assessed using high intensity test pit methodology]
- 3. Test pit to within 1 m of built structures (both intact and ruins), or until test pits show evidence of recent ground disturbance. [Not Applicable]
- 4. *Ensure that test pits are at least 30 cm in diameter.* [All test pits were at least 30 cm in diameter]
- 5. Excavate each test pit, by hand, into the first 5 cm of subsoil and examine the pit for stratigraphy, cultural features, or evidence of fill.
 [All test pits were excavated by hand into the first 5 cm of subsoil and examined for stratigraphy, cultural features, or evidence of fill]
- 6. Screen soil through mesh no greater than 6 mm.[All soil was screened through mesh no greater than 6 mm]
- Collect all artifacts according to their associated test pit. [Not Applicable - No archaeological resources were encountered]
- 8. Backfill all test pits unless instructed not to by the landowner. [All test pits were backfilled]

(MTC 2011: 31-32)

The project lands could not be ploughed due to the property consisting of woodlot as well as the presence of disturbance so these areas were subject to a test pit survey at an interval of 5 metres between individual test pits. Upon field assessment the areas within 50 metres of a low-lying and wet area consisted of a wooded area and could be assessed using conventional methodology. Approximately 90% of the study area consisted of low-lying and wet cedar forest, 8% steep slope and 2% was the gravel road and ATV track.

However, as the study area is situated in Northern Ontario, the Standards and Guidelines for Consultant Archaeologists allows for a modified test pit strategy as follows:

- Where the identified feature of archaeological potential is a modern water source, test pitting is required between 0 and 50 m from the feature. Space test pits at maximum intervals of 5 m. Survey is not required beyond 50 m. [All test pits were spaced at an interval of 5m between individual test pits]
- 2. For features of archaeological potential other than modern water sources (e.g. historic water sources such as glacial shorelines) test pitting is required as follows:

a. space test pits as a maximum interval of 5 m between 0 and 50 m from the feature of archaeological potential [Not Applicable]

b. space test pits at maximum intervals of 10 m between 50 and 150 m from the feature of archaeological potential [Not Applicable]

c. survey is not required beyond 150 m

3. While maintaining standard survey grids as closely as possible, the consultant archaeologist may vary from standard survey grids as necessary, based on professional judgment. Document and explain the rationale for variations in the Stage 2 report [Not Applicable]

(MTC 2011: 35)

6.3 Field Work Weather Conditions

The conduct of the Stage 1-2 Archaeological Assessment of the study area was completed in accordance with the above noted standards on 8 and 9 August 2012. The temperature was around 25°C and 22°C. The work was completed under sunny skies. Weather conditions were appropriate for the conduct of archaeological fieldwork.

7.0 RECORD OF FINDS

7.1 Archaeological Resources

No archaeological resources of any description were encountered anywhere within the study area.

7.2 Archaeological Fieldwork Documentation

The documentation produced during the field investigation conducted in support of this report includes: three sketch maps, one page of photo log, one page of field notes, and 61 digital photographs.

8.0 ANALYSIS AND CONCLUSIONS

AMICK Consultants Limited was engaged by the proponent to undertake a Stage 1-2 Archaeological Assessment of lands potentially affected by the proposed undertaking and was granted permission to carry out archaeological work on 30 July 2012. Those portions of the property which did not consists of steep slope, exposed rock, low-lying and wet and were within 50 metres of a low-lying and wet area were subject to reconnaissance, photographic documentation and physical assessment on 8 and 9 August 2012. Those portions of the property which were within 50 metres of a low-lying and wet area consisted of mostly of low-lying and wet cedar forest and therefore could not be assessed using conventional methodology, however a small area was assessable and was assessed using the test pit methodology. All records, documentation, field notes, photographs and artifacts (as applicable) related to the conduct and findings of these investigations are held at the Lakelands District corporate offices of AMICK Consultants Limited until such time that they can be transferred to an agency or institution approved by the Ontario Ministry of Tourism and Culture (MTC) on behalf of the government and citizens of Ontario.

Section 7.7.3 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 132) outlines the requirements of the Analysis and Conclusions component of a Stage 1 Background Study.

- *1) "Identify and describe areas of archaeological potential within the project area.*
- 2) Identify and describe areas that have been subject to extensive and deep land alterations. Describe the nature of alterations (e.g., development or other activity) that have severely damaged the integrity of archaeological resources and have removed archaeological potential."

8.1 Characteristics Indicating Archaeological Potential

Section 1.3.1 of the <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics that indicate archaeological potential (MTC 2011: 17-18). Factors that indicate archaeological potential are features of the local landscape and environment that may have attracted people to either occupy the land or to conduct activities within the study

area. One or more of these characteristics found to apply to a study area would necessitate a Stage 2 Property Assessment to determine if archaeological resources are present. These characteristics are listed below together with considerations derived from the conduct of this study.

1) <u>Previously Identified Archaeological Sites</u>

Previously documented archaeological sites related to First Nations activity and occupations have not been documented in the vicinity of the study area.

2) <u>Water Sources</u>

Primary water sources are describes as including lakes, rivers streams and creeks. Close proximity to primary water sources (300 metres) indicates that people had access to readily available sources of potable water and routes of waterborne trade and communication should the study area have been used or occupied in the past.

Several portions of the study area are within 300m of water. In the case of properties in northern Ontario areas within 50m of water are considered to be of high potential, while areas from 50m to 150m are considered to be of low potential. Areas outside of 150m from water are considered to have no potential.

Secondary water sources are described as including intermittent streams and creeks, springs, marshes, and swamps. Close proximity (300 metres) to secondary water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

The study area is within 300 metres of secondary water sources.

3) Features Indicating Past Water Sources

Features indicating past water resources are described as including glacial lake shorelines indicated by the presence of raised sand or gravel beach ridges, relic river or stream channels indicated by clear dip or swale in the topography, shorelines of drained lakes or marshes, and cobble beaches. Close proximity (300 metres) to features indicating past water sources indicates that people had access to readily available sources of potable water, at least on a seasonal basis, and in some cases seasonal access to routes of waterborne trade and communication should the study area have been used or occupied in the past.

There are no identified features indicating past water sources within 300 metres of the study area.

 Accessible or Inaccessible Shoreline This form of landscape feature would include high bluffs, swamp or marsh fields by the edge of a lake, sandbars stretching into marsh, etc.

There are identified features of elevated topography within the study area.

5) <u>Elevated Topography</u>

Features of elevated topography that indicate archaeological potential include eskers, drumlins, large knolls, and plateaux.

There are identified features of elevated topography within the study area.

6) Pockets of Well-drained Sandy Soil

Pockets of sandy soil are considered to be especially important near areas of heavy soil or rocky ground.

There were no areas of sandy soil encountered within the study area.

7) Distinctive Land Formations

These are landscape features that might have been special or spiritual places, such as waterfalls, rock outcrops, caverns, mounds, and promontories and their bases. There may be physical indicators of their use, such as burials, structures, offerings, rock paintings or carvings.

There are no identified distinctive land formations within the study area.

8) <u>Resource Areas</u>

Resource areas that indicate archaeological potential include food or medicinal plants (e.g., migratory routes, spawning areas, and prairie), scarce raw materials (e.g., quartz, copper, ochre or outcrops of chert) and resources of importance to early Euro-Canadian industry (e.g., logging, prospecting, and mining).

There are no identified resource areas within the study area.

9) Areas of Early Euro-Canadian Settlement

These include places of early military or pioneer settlement (e.g., pioneer homesteads, isolated cabins, and farmstead complexes), early wharf or dock complexes, pioneer churches and early cemeteries. There may be commemorative markers of their history, such as local, provincial, or federal monuments or heritage parks.

The study area is situated within an area still unsettled.

10) Early Historical Transportation Routes

This includes evidence of trails, passes, roads, railways, portage routes.

The study area is situated in close proximity to the Montreal River which is a historically significant route of communication and trade.

11) Heritage Property

Property listed on a municipal register or designated under the *Ontario Heritage Act* or is a federal, provincial or municipal historic landmark or site.

There are no listed or designated heritage buildings or properties which form a part of the study area.

12) Documented Historical or Archaeological Sites

This includes property that local histories or informants have identified with possible archaeological sites, historical events, activities, or occupations. These are properties which have not necessarily been formally recognized or for which there is additional evidence identifying possible archaeological resources associated with historic properties in addition to the rationale for formal recognition.

There are no documented heritage features, or historic sites, or archaeological sites within the study area.

8.2 Characteristics Indicating Removal of Archaeological Potential

Section 1.3.2 of the <u>Standards and Guidelines for Consultant Archaeologists</u> specifies the property characteristics which indicate no archaeological potential or for which archaeological potential has been removed (MTC 2011: 18-19). These characteristics are listed below together with considerations derived from the conduct of this study. The introduction of Section 1.3.2 (MTC 2011: 18) notes that "*Archaeological potential can be determined not to be present for either the entire property or a part(s) of it when the area under consideration has been subject to extensive and deep land alterations that have severely damaged the integrity of any archaeological resources. This is commonly referred to as 'disturbed' or 'disturbance', and may include:"*

1) Quarrying

There is no evidence to suggest that quarrying operations were ever carried out within the study area.

2) Major Landscaping Involving Grading Below Topsoil

Unless there is evidence to suggest the presence of buried archaeological deposits, such deeply disturbed areas are considered to have lost their archaeological potential. Properties that do not have a long history of Euro-Canadian occupation can have archaeological potential removed through extensive landscape alterations that penetrate below the topsoil layer. This is because most archaeological sites originate at grade with relatively shallow associated excavations into the soil. First Nations sites and early historic sites are vulnerable to extensive damage and complete removal due to landscape modification activities. In urban contexts where a lengthy history of occupation has occurred, properties may have deeply buried archaeological deposits covered over and sealed through redevelopment activities that do not include the deep excavation of the entire property for subsequent uses. Buildings are often erected

directly over older foundations preserving archaeological deposits associated with the earlier occupation.

There is no evidence to suggest that major landscaping operations involving grading below topsoil were ever carried out within the study area.

3) Building Footprints

Typically, the construction of buildings involves the deep excavation of foundations, footings and cellars that often obliterate archaeological deposits situated close to the surface.

There are no buildings within the study area.

 Sewage and Infrastructure Development Installation of sewer lines and other below ground services associated with infrastructure development often involves deep excavation which can remove archaeological potential.

There is no evidence to suggest that below ground services of any kind have resulted in impacts to any portion of the study area.

"Activities such as agricultural cultivation, gardening, minor grading and landscaping do not necessarily affect archaeological potential." (MTC 2011: 18)

"Archaeological potential is not removed where there is documented potential for deeply buried intact archaeological resources beneath land alterations, or where it cannot be clearly demonstrated through background research and property inspection that there has been complete and intensive disturbance of an area. Where complete disturbance cannot be demonstrated in Stage 1, it will be necessary to undertake Stage 2 assessment.." (MTC 2011: 18)

8.3 Stage 2 Analysis and Recommendations

Section 7.8.3 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 138-139) outlines the requirements of the Analysis and Conclusions component of a Stage 2 Physical Assessment.

- 1. Summarize all finding from the Stage 2 survey, or state that no archaeological sites were identified.
- 2. For each archaeological site, provide the following analysis and conclusions:
 - a. A preliminary determination, to the degree possible, of the age and cultural affiliation of any archaeological sites identified.
 - b. A comparison against the criteria in 2 Stage 2: Property Assessment to determine whether further assessment is required

c. A preliminary determination regarding whether any archaeological sites identified in Stage 2 show evidence of a high level cultural heritage value or interest and will thus require Stage 4 mitigation.

No archaeological sites or resources were found during the Stage 2 survey of the study area.

9.0 **RECOMMENDATIONS**

9.1 Stage 1 Recommendations

Under Section 7.7.4 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 133) the recommendations to be made as a result of a Stage 1 Background Study are described.

- Make recommendations regarding the potential for the property, as follows:

 a. if some or all of the property has archaeological potential, identify areas recommended for further assessment (Stage 2) and areas not recommended for further assessment. Any exemptions from further assessment must be consistent with the archaeological fieldwork standards and guidelines.
 b. if no part of the property has archaeological potential, recommend that the property does not require further archaeological assessment.

 Recommend appropriate Stage 2 assessment strategies.
- The study area has been identified as an area of archaeological potential.
 - 1) Within the study area the land consists of wooded areas, gravel road, ATV track, steep slope, exposed rock, and low-lying and wet cedar forest. A small area within the study area was assessed using the test pit methodology.

9.2 Stage 2 Recommendations

Under Section 7.8.4 of the <u>Standards and Guidelines for Consultant Archaeologists</u> (MTC 2011: 139) the recommendations to be made as a result of a Stage 2 Physical Assessment are described.

- *1)* For each archaeological site, provide a statement of the following:
 - a. Borden number or other identifying number
 - b. Whether or not it is of further cultural heritage value or interest
 - c. Where it is of further cultural heritage value or interest, appropriate Stage 3 assessment strategies
- 2) Make recommendations only regarding archaeological matters. Recommendations regarding built heritage or cultural heritage landscapes should not be included.

3) If the Stage 2 survey did not identify any archaeological sites requiring further assessment or mitigation of impacts, recommend that no further archaeological assessment of the property be required.

As a result of the physical assessment of the property, no archaeological resources were encountered. Consequently, it is recommended no further archaeological assessment of the property is required.

10. ADVICE ON COMPLIANCE WITH LEGISLATION

While not part of the archaeological record, this report must include the following standard advisory statements for the benefit of the proponent and the approval authority in the land use planning and development process:

- a. This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c. 0.18. The report is reviewed to ensure that it complies with the standards and guidelines issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism and Culture, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.
- b. It is an offence under Sections 48 and 69 of the Ontario Heritage Act for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the Ontario Heritage Act.
- c. Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the Ontario Heritage Act.
- d. The Cemeteries Act, R.S.O. 1990, c. C.4 and the Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.
- e. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

11. BIBLIOGRAPHY AND SOURCES

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Figure 1 Location of the Study Area (Google Maps 2011)



Figure 2 Segment of <u>Map of Part of Northern Ontario Showing the Northern Part</u> of the District of Nipissing, Algoma and Thunder Bay (from The Copp Clark Co, Toronto 1904)



Figure 3Bow Lake Wind Farm (Tulloch 2010)

2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #12049-P/MTC File #P058-893-2012)



Figure 4Aerial Assessment Map (Google Earth 2011)



2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #12049-P/MTC File #P058-893-2012)

Figure 5 Plan Assessment Map (Tulloch 2010)



Figure 6 Aerial Photo of the Study Area Map 1 (Google Earth 2011)



Figure 7 Aerial Photo of the Study Area Map 2 (Google Earth 2011)











2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #12049-P/MTC File #P058-893-2012)





Figure 11 Detailed Plan of the Study Area Map 3

2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #12049-P/MTC File #P058-893-2012)





2012 Stage 1-2 Archaeological Assessment of Bow Lake Amendment Lands, Townships of Smilsky & Peever, District of Algoma (AMICK File #12049-P/MTC File #P058-893-2012)



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05 November 2012



Mr. Bryan Tripp, P. Eng, M.A.Sc. Lead Regulatory - East Bow Lake Phase 1 Wind Farm Ltd. & Bow Lake Phase 2 Wind Farm Ltd. c/o Bluearth Renewables Inc. Suite 200, 4723 – 1st Street S.W. Calgary, Alberta T2G 4Y8

VIA Email to <u>bryan@bluearth.ca</u>

RE: Revisions to Bow Lake Phases 1 & 2 Project Design (2 Pages) (our file #12120-P)

Dear Mr. Tripp,

I am writing to you to acknowledge receipt of your emails dated 22 October to 01 November, 2012.

We have reviewed the mapping you have sent to us entitled Drawing G* issues September 28, 2012. We have examined this map, together with previous assessment maps documenting archaeological work on the project, in consideration of the specific concerns you have raised in your email of 01 November 2012, as follows:

- 1. Access road near turbine 1 shifted slightly to avoid wetland
- 2. Turbine 5 shifted slightly to the south
- 3. Access Road between T9 and T10 Road shifted slightly to avoid wet area
- 4. Access road between T26 and T28 shifted slightly to avoid wetland
- 5. Access Road between T34 and T33 shifter slightly to avoid wetland area
- 6. Turbine 2 location shifted slightly to avoid watercourse
- 7. Turbine 3 location adjusted slightly to avoid water body

In my opinion, the areas affected by these very minor variances to the plans on file to date, have already been subject to archaeological reconnaissance, and/or physical assessment, as appropriate. There are therefore no concerns with respect to potential impacts to archeological resources resulting from these modifications.

I trust that this letter satisfies your immediate concerns. Should you, or any other parties, have any questions or wish to discuss these matters further, please do not hesitate to contact me.

Sincerely,

mhulf in

Michael B. Henry Partner

AMICK Consultants Limited

Lakelands District Office 380 Talbot St. P.O. Box 29 Port Mc Nicoll, ON L0K 1R0 Tel: 705-534-1546 Fax: 705-534-7855 Email: <u>mhenry@amick.ca</u> Website: <u>www.amick.ca</u>